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THE VERTEBRATE FAUNA OF "DEE."

PRINTED AT
THE OFFICE OF THE "ABERDEEN DAILY JOURNAL,"
18-22 BROAD STREET, ABERDEEN.

THE

VERTEBRATE FAUNA

OF

"DEE."

-7 NOV. 1903

By GEORGE SIM, A.L.S.,

Author of a "History of the Herring," Prize Essay, Edinburgh Fisheries' Exhibition, 1882;
"Food of Fishes," Prize Essay, London Fisheries' Exhibition, 1883;
"Pallas's Sand Grouse in Aberdeenshire, 1888," etc.

The Ichthyological portion includes the

FISHES OF THE EAST COAST

FROM

WICK TO FIRTH OF FORTH.

BRITISH MUSEUM
NATURAL HISTORY

Aberdeen:

D. WYLLIE & SON, Union Street.

1903.

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PREFACE.

Many changes have occurred in "Dee" since 1855, the date of issue of the *Natural History of Deeside and Braemar*, written by the late highly-talented Dr. MacGillivray. The following pages are the result of observations made during the past forty years, which, it is hoped, will bring those changes into view, and the state of our Fauna up to date.

Neither time nor trouble has been spared to make sure of the matter recorded, and, so far as is possible, every statement has been verified by personal enquiry.

Much assistance has been given by willing correspondents. Especially do I desire to record the kindly help received from Miss D. Hamilton, of Skene, who takes an enthusiastic interest in Ornithology, and most obligingly placed her notes at my disposal. To the following gentlemen my thanks are due for the assistance they have given :—John A. Harvie-Brown, Esq. of Dunipace ; Mr. Alex. Inkson M'Connochie, Aberdeen ; Prof. J. Arthur Thomson, Aberdeen University ; Dr. Albert Günther and Mr. G. A. Boulenger, of the British Museum ; Dr. R. H. Traquair, and Mr. W. Eagle Clarke, of the Museum of Science and Art, Edinburgh ; Dr.

W. Tait, Inverurie, and his son, Mr. Thomas Tait; Mr. James Mackie, Burnharvie; Mr. James Elphinstone, M.A., King-Edward; and Mr. W. Pirie, Aberdeen. Throughout the body of the work the names of other gentlemen appear to whom the author is indebted.

The services of the following gentlemen, now no more, are gratefully recorded:—Dr. Francis Day, of Cheltenham, author of the *History of the Fishes of Great Britain and Ireland;* Stewart Burnett, Esq., Kemnay, than whom no one knew the Fauna of our district better; and Mr. Thomas S. Tait, Inverurie.

In the arrangement and nomenclature the authors followed have been—as to Mammalia, Bell's 1st Edition; as to Ornithology, the List of the British Ornithologists' Union; and as to Fishes, Dr. Day.

GEORGE SIM.

ABERDEEN, *October*, 1903.

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Photo.] FOWLS-HEUGH, KINCARDINESHIRE. [*Mr. Norrie, Fraserburgh.*

INTRODUCTION.

THE natural division of Scotland to which the following observations refer is known as "Dee," and comprises the greater part of the counties of Aberdeen and Kincardine. It is bounded by "Moray" on the north and west, and on the south by "Tay." These areas meet on Carn an Fhidhleir (Cairn Ealar) (3276), where three counties—Aberdeen, Inverness, and Perth—join, about 85 miles from the North Sea.

The coast line of "Dee," *i.e.*, from Fowls-heugh, in Kincardineshire, to Troup Head, in Banffshire, is about 80 miles in length. The whole district comprises an area of about 23,000 square miles, and is truly the

> "Land of brown heath and shaggy wood,
> Land of the mountain and the flood."

The coast line of our area is a most interesting one, both from a zoological and geological point of view.

Let us suppose ourselves at the southern limit of the coast, that is, at Fowls-heugh, some three or four miles south of Stonehaven. Here we find high beetling cliffs composed of *Sandstone Conglomerate*, pierced in many places by dykes and beds of *Greenstone*. The sea washes with deep rolling waves against the foot of the rocks, and has excavated in many places long dark caverns, some of which can only be approached by boat; others can be reached on foot when the tide is low, and one can enter many subterranean galleries, torch in hand, and explore their dark recesses, from which the Rock-dove darts in hurried flight at the intrusion. We also meet with numerous colonies of Martins, which fly out regardless of our presence, and whose nests can be seen in the chinks of the rock. On

the face of the cliffs are many holes and narrow terraces, formed by the powerful agency of frost, rain, and wind. Here thousands of Kittiwakes, Herring Gulls, Razorbills, Guillemots, and Puffins, a few Black Guillemots, a pair of Peregrins, and the Kestrel resort to rear their young. At such times the scene is a most animated and interesting one, and few places are better adapted for studying the habits of the various species mentioned. We have pitched our little tent upon the "Heugh Heads," and watched the birds so long as light remained, and listened to their midnight cries.

The coast line continues much the same until the ruins of Dunnottar Castle are reached. High cliffs of *Red Sandstone* occur at Stonehaven, but the older part of the town is only a few feet above high-water level. The depression extends landwards for some miles, bifurcating near the town; one arm runs north-west-by-north, while the other takes a westerly course. The latter is traversed by the Water of Carron, the former by the Water of Cowie, both small streams discharging into the sea at Stonehaven. At the village of Cowie *Sandstone* again appears, and in turn is succeeded by *Gneiss* and other crystalline formations. These rise in places to great heights, and have been much disturbed by intrusive dykes of *Greenstone*, resulting in the formation of many narrow creeks, into which the sea rushes with great force.

At the village of Skateraw, *Gneiss* forms the coast line, and here, as elsewhere, the land is cut into by deep creeks known as Murray's Heugh, Batbridge Bay, White May, May Craig, and Skateraw Harbour. On the north side of this is the Doo's Cave, a beautiful cavern, in the floor of which are several pools, full of exquisitely coloured anemones, and many other no less lovely marine forms. Near to this lies what is known as the Needle's E'e, a gallery piercing a rock about 300 feet high. Here, too, there are deep creeks known

as Granger's Tail, White Wife, White May, Craig Stirling, Rams Haa, Hail Globe, and Kame-o-coble-beard.

Proceeding northwards, we find that the coast is much the same as that already described: high headlands and long sinuous creeks, one of which, known as the Erne Heugh, would seem to indicate that at one time the Sea Eagle had been in the habit of frequenting, perhaps of nesting, there, the Erne being the name by which that bird was known in former times. Near the Bay of Nigg the coast becomes less elevated, and affords excellent facilities for the study of bird life, and is generally of a varied and most interesting character. Passing the low sandy and pebbly shore of the Bay of Nigg, we reach Girdleness—a rocky promontory—and enter the valley of the Dee.

Before continuing our course northward, it is necessary to give some indication of the appearance of the country lying inland and adjacent to the stretch of coast line already traversed, and which presents great differences to that which remains to be described. Generally speaking, the land along the coast from Fowls-heugh northwards is under cultivation, with here and there small patches still in their natural state. The land is of a clayey nature, and produces fairly good crops; but the general aspect of the district is bare, bleak, and entirely without wood (except a small patch near Newton) until Stonehaven is reached. Here, on the estates of Dunnottar and Fetteresso, there is a considerable amount of woodland and plantations, as is also the case upon the estate of Urie and in the Den of Cowie.

From this onwards the country, though now well under cultivation, has still some tracts of peat, moss, and marsh, with little appearance of wood; and altogether it is an uninviting, cold, late, and cheerless region, until the Loch of Loirston is reached. On the south-east side of this loch are plantations of stunted, starving firs. Beyond the loch,

stretching to the north-east, lie the wooded hills of Kincorth and Tullos, and to the westward the wooded Den of Leggart and the fine woods of Banchory, which reach the south bank of the Dee. Repellent as the region over which we have passed even now is, it is a garden in comparison with what it was in times not yet long past, as may be seen from the following extracts. Franck, in his *Northern Memoirs*, 1656, speaking of the country between Aberdeen and Stonehaven, says: "But what have we here? Cawses uncartable, and pavements unpracticable, pointed with rocky stumpy stones, and dawb'd all over with dingy dirt, that makes it unpassible; and the fields, as I conceive, are ten times worse, because o'erspread with miry clay, and incumbred with bogs that will bury a horse." George Colman, in his *Random Records*, 1781, remarks: "For many a weary mile from Edinburgh to my seat of banishment, the country grows more sterile in appearance, till from Stinehive to Aberdeen, it becomes naked desolation, a waste of peat, varied only by huge masses of stone sticking up here and there in the bogs and even in the middle of the road." Douglas, in his *East Coast of Scotland*, 1782, on passing Stonehaven describes it thus: "About a mile further on we pass a wretched barren moor, almost one continuous stone, which, with little interruption, is the case of all the country till we reach the Bridge of Dee. The enclosures are generally small, and a great part of their contents covered with heath and bog. . . . . To explain this I must observe that the country for some distance from the sea is populous. You see everywhere numbers of poor huts and starved cattle." Newte, in his *Tour in England and Scotland*, 1791, thus expresses himself: "From this hill, the road runs near the sea all the way to Stonehaven, and is very dreary; no trees to be seen except now and then a small plantation of firs; some few spots are converted into cornland and grass, but marshes prevail."

The coast between the rivers Dee and Don, and northwards to the river Ythan, is one continuous sheet of sand, which in many parts is blown into high mounds and overgrown with bents, grass, and whin. Although this section is sterile it is nevertheless of considerable interest. Amid the benty hillocks, the Common Tern scrapes its shallow nest and rears its young, and the Ring Plover runs nimbly round the sandy heaps to entice intruders from its treasures. Here, too, for a time, the beautiful Sand Grouse *(Syrrhaptes paradoxus)* took up its residence in 1888, and remained and flourished until the end of the season. Among the bents are several stoney "scaups" on which lie heaps of flint chippings which mark the resting-places of primitive man. Among these chippings have occasionally been found fine examples of his art in the shape of barbed and leaf-shaped flint arrows (fairy darts), chisels, and cores, and also the "anvils" of water-worn stones on which he fashioned them. In places the ground is marshy, forming a haunt for the Snipe and Wild Duck. At others the hummocks of sand are perforated by rabbits, in whose disused burrows the Stock Doves have of late years made their nests. At others again, we can either wander into tracks where nothing but high hills of sand surround us, with not a bush or blade of green to relieve the dismal prospect; or into a wilderness of stones and damp sandy clay, with here and there an outcrop of gneiss or granite. On the sands, well within tide-mark and some miles north of the river Don, lies the huge "Black-dog Stane," around which is a favourite resting-place of the Sea Gulls.

Such is the appearance of the coast line until the Ythan is reached. No wood or tree of any sort exists until we pass some way beyond the eastern edge of cultivation; and even there, only small clumps of plantations are seen. Crossing the Ythan, we are again met by ground

of a similar nature. Near the mouth of this river the Common and Little Terns breed, but are subject to much persecution, with the result that their numbers are yearly becoming fewer. Between this point and the Burn of Forvie lies a vast tract extending to many thousands of acres, composed of bent-hillocks, heath, and whin-covered ground, with a considerable extent of marsh, on which may be seen Green Plover, Redshank, Tern, Lark, Pipit, Starling, Grouse, and Hooded Crow, with Ring Plover and Dunlin on the dry hillocks. The "Dunter Duck" (*Somateria mollissima*) builds her nest among the bents, and the "Annet" (*Tadorna cornuta*) creeps into the rabbits' burrows and successfully disputes possession with the rightful owners, and makes her beautiful nest. Here stand the low ruined walls of the old Church of Forvie, the only object that now remains to mark the site of the sand-smothered hamlet of that name. Now there is nothing but one expanse of bent and sandy desolation, over which may be heard the melancholy wail of the Golden Plover and the eerie cry of the wary Curlew.

Near the old Church of Forvie *Hornblende Slate* and *Gneiss* appear, and form the coast line, which rises to a considerable height at Hackley Bay; and after passing Port Thuddan we arrive at the village of Collieston, a curious assemblage of huts, thrown down, as it were, along the face of the slopes surrounding the bay. On the landward side of the village lies the Sand Loch of Slains, a sheet of water four or five acres in extent; and a little further north lies the Meikle Loch of Slains, extending to some 80 or 100 acres. Around this loch there are high ridges of gravel known as the Kippet Hills, "consisting of sand, gravel, and waterworn pebbles, showing no regular arrangement, but abounding in rolled stones of all sizes." Along with these are fragments of marine shells and pieces of limestone. This deposit, however, is not *in situ*. Dr. Jamieson, in a paper to the *Quarterly Journal* of the

Geological Society, in 1860, speaking of this deposit, says: "I infer the age to be probably that of either the red or mammaliferous crag of England."

North of Collieston the coast line is formed of steep grassy braes, composed of fine soft clayey loam, 20 to 40 feet deep, without stones of any size, and covered with a luxurious vegetation, which, in the season, is studded with beautiful, rich, golden tufts of Cowslips (*Primula veris*). About a mile north of the Church, and upon an outstanding rock, are the ruins of the old Castle of Slains, which "belonged originally to the Earls of Buchan, and became afterwards for many generations the seat of the noble family of Erroll" (Pratt). This building was destroyed by James VI. in 1594. Here there are some low points of rock which run far out to sea. The coast is cut into numerous creeks, chief amongst which is St. Catherine's Dub, at Collieston, said to be the last resting-place of the *St. Catherine*, one of the Spanish Armada, wrecked in 1588. Colour is given to this story from the fact that guns of considerable size and of fine quality have at various times been recovered from the bottom of the "Dub." There are also many caves, known as Hell's Lum, the Drooping Cave of Slains, Cave Arthur, etc.

As we proceed, the rocks attain a greater elevation and present many beautiful forms, such as detached stalks rising from the sea, high beetling cliffs that hang frowningly over the surging billows, and in one place a fine circular bay, around which the rocks stand perpendicularly. Upon these the Kittiwake, Guillemot, Jackdaw, and Starling breed in thousands. Here, also, Herring Gulls annually congregate; and until 1885, when they were shot, a pair of Peregrine Falcons bred upon a point known as the Rock of Ogstone. From this the fishing village of Whinnyfold, locally known as Finnyfauld, near the south end of the Bay of Cruden, is soon reached. The Bay of Cruden

stretches northward for about two miles, forming a fine sandy shore, backed by a broad belt of sandy knolls clothed with bent and whin. At the north end stands the fishing village of Cruden, or Ward of Cruden, now better known as Port Erroll. In front of the village the Water of Cruden falls into the ocean. The country adjacent to our course for some miles inland is flattish and bare, little or no wood existing. The Castle of Slains, a fine building, the residence of the Earl of Erroll, stands upon a tongue of red granite, and surrounded on three sides by the sea. With the exception of a few patches of cultivated land near the castle, and a small clump of stunted trees about a mile to the west, there is nothing to beautify the scene —all is barren moory land.

The district westward takes the form of a large basin, its rim being formed by the coast line and high ground inland. This is nearly all under cultivation, but, like the most of Buchan, has little to recommend it in the way of scenery, though it is interesting historically, and its annals have been graphically given to us in *Buchan*, by the late Rev. Dr. Pratt. The coast line, however, presents many points of grandeur — bold rocky heights with outstanding pillars, some of which present quaint likenesses to human and other forms of living creatures. The Rock of Dunbuy attracts special attention. It is a magnificent mass of granite, surrounded by the sea, and forms a grand rugged arch, the resort in summer of numerous Puffins, Guillemots, Razorbills, Herring Gulls, and Rock Pigeons; indeed, it is one of the chief breeding places of the species named to be found on the east coast. Here, many deep narrow creeks run far inland, flanked with dark, heavy, frowning masses of overhanging rocks.

Such is the character of the coast until the Bullers of Buchan are reached. This is a wide semicircular cauldron surrounded by high perpendicular cliffs, and can only be

entered by boat through a narrow opening on the seaward side. Through this opening, which is of no great height, the sea, during storms, rushes with terrific force, sending its spray streaming upwards, far beyond the rocky heights. Seen under such conditions, the Bullers present a scene of extreme grandeur. Beside the Bullers is another series of rocks, also of great beauty, known as Hell's Lum. Beyond this, the coast is composed of high granite rocks, bordered by a belt of moory wind-swept ground, which extends landward for some distance, and coastwise until the village of Boddam is reached. Near this village is Stirling Hill, a high mass of red granite, from which fine monuments and material for many a stately mansion and public building have been cut. This is the famous Peterhead Granite, now known over much of the civilised world. The country around is of a hummocky nature, and nearly all under cultivation.

Within the South Bay of Peterhead is an extensive deposit of clay, which is dug for brick-making. In this clay shells are frequently found; and once, many feet below the surface, the skeleton of a duck was obtained. The *Statistical Account* adds: "About two years ago (1793) on digging for a well for the accommodation of the family at the manse, at the depth of about eight or ten feet, a complete skeleton of a deer was found." The bay, from the brickworks round to Peterhead, is formed of sand, shingle, and a low reef of rock known as Salties Point. The rocks rise high beside the town, forming a rugged fringe between it and the sea.

The coast line from Peterhead to the mouth of the river Ugie is a high rocky one. Beyond the Ugie, on to Rattray Head, the land is low and sandy, backed by immense tracks of sand dunes covered with bent, etc. This is called the Links of St. Fergus. Rattray Head is formed by a low reef of rock which runs far out to sea. Beyond this, the

coast is again low and sandy, with wide tracks of links and sandy hillocks. The general aspect is again one of bleak desolation, with neither tree nor shrub, other than whin, to break the monotony of the scene; and those only of an ornithological turn of mind will find anything to recommend it. The entire district between Ugie and Rattray, west of the coast line, is under cultivation, and the soil is generally good—some of it very good—but even in summer there is something chilly and repellent about it, and this feeling is heightened by the appearance of the hedgerows, all of which have their tops and branches bent landwards, as if anxious to escape the strong cold northern winds that are almost continually playing upon them. The country is flattish, with nothing approaching the name of hill; yet there are many inequalities, which give the land a rolling water-worn appearance, as if it had at one time formed the sea-bottom. Around Rattray House are a good many trees that extend in a narrow belt of about a mile in length. Beyond this lies the Loch of Strathbeg, which will be again alluded to. At the south-west end of the loch stands Crimonmogate House, surrounded by its extensive and beautifully wooded grounds, within which have been obtained numerous ornithological rarities.

Proceeding from this fascinating place, we hold along the coast, which, for some distance, continues of a sandy nature; while on the higher grounds adjacent to it are seen the woods around Cairness House and those of Philorth. Passing the villages of St. Combs, Inverallochy, and Cairnbulg, the shore is low and rocky, formed of *Gneiss*.

We now reach Fraserburgh Bay, along the south side of which lies an expanse of sandy alluvium, bounded by sand hills. On the west side of the bay stands the town of Fraserburgh, between which and the village of Broadsea is situated Kinnaird's Head. Here the rocks are of

considerable height, but soon diminish to little above sea level, and continue so past the fishing villages of Sandhaven and Pitullie, and onwards to the burgh of Rosehearty. From the latter, westwards, the coast still continues low, with a sandy beach, until near Aberdour Bay, where the rocks, composed of *Old Red Sandstone* and *Conglomerate, Pebbly Quartzite,* and *Andulusite Schist,* again attain a considerable altitude, and on which stand the ruins of Dundarg Castle. These rocks attain at Strangles Point, sometimes called Clenteray Point, a height of 300 feet. Between the latter Point and Pennan Head the rocks continue high, and are of *Conglomerate,* with occasional sandy beds. In the high rock face near Pennan Head the Peregrine Falcon finds convenient, but not always secure, nesting places. At the attractive little village of Pennan a deep glen runs inland, known as the Tore of Troup, through which the Tore Burn flows to the sea. This glen is for some distance closely wooded, and forms a pleasant and striking contrast to the surrounding country. At Pennan the uppermost fifty feet of the rocks consists of a breccia formed of clay-slate and sand resting on the conglomerate, which forms the coast line. The cliffs continue to rise in height and grandeur as we proceed, until at Troup Head they attain their greatest elevation, about 400 feet.

This brings us to the north-west point of our area, and like the southern point, it forms the summer resort of thousands of Herring Gulls, Kittiwakes, Guillemots, Razorbills, and Puffins, and a few Black Guillemots. The land bordering the sea recently passed is flattish, on the whole; but there are many deep hollows excavated by the small streams that flow over the softish rocks, and many extensive rounded mounds have been formed. At other points lie many acres of peat moss and sterile moor; and here and there the land is under cultivation, but is not of a highly productive nature. Although the district, as already stated,

has a bare, woodless, and cold appearance, such has not always been the case, for these peat mosses contain evidence that it was once otherwise. In these we find huge trees of oak, hazel, birch, mountain ash, and fir. This last, because of its resinous nature, was dug up, split into long thin portions, and formed the ancient "fir candle," the only light the people in old times possessed. These trees formed extensive forests that existed, to some extent at least, down to the time of the wars between the Earl of Buchan and the Bruce. In these mosses have also been found many flint arrows and spear heads, bronze celts, pots, and swords, oak canoes, spades, and portions of crossbows. Those who wish to learn more about the past of this district would do well to peruse an excellent paper by the late Rev. James Peter, entitled, *The Peat Mosses of Buchan.*

Through these forests once roamed herds of *Bos primigenius*, whose skulls and teeth have been found in numbers generally lying on the surface of the boulder clay, covered by many feet of overlying moss. These woods also formed a congenial home for the stately Red Deer. All is changed—the mighty monarchs of the forest have gone, and our largest wild quadrupeds are the Roe and Hare. Foxes can scarcely be said to exist, and within the past thirty years the Badger and Pole-cat have been exterminated.

Leaving the coast at Troup Head, the northern limit of our district, passing Protston and Protston Hill, Cross-slacks to Darfash, the line holds eastward and strikes the south end of the Tore of Troup. On emerging from the Tore, we find ourselves on the border of an extensive track of moorland, small portions of which are under cultivation. After this, moss and heath are traversed, and we soon reach the Loch of Monwig, which lies on the moss of Fishrie (679 feet above sea level).

Leaving this on our right, we strike the source of the middle branch of the Gonar Burn, while on our left, beside Cowbog and the farm of Todholes, lies the source of the south branch; the third and most northern at Windyheads Hill is known as the Greenspeck. These three branches unite at Skelmanae, after which the stream is known as the Water of Strichen, and ultimately by the name of the North Ugie. From Northside we skirt the southern border of Corthie Moss to reach the hill of Bonny Kelly, where lie enormous beds of peat, many acres in extent. This marks the line between "Moray" and "Dee." Passing the villages of Newbyth, Garmond, and Cuminestown, on our right, our line runs by the east side of Hillhead of Cairncake (446), and thence to Borderside, where it turns westward to Parkhill and Muirtack to near the Wagglehill (406), beside which is the Howe of Teuchar. Here the boundary turns south-west, passing the west side of Deer's Hill (585), and over Brown Hill to near Rosebrae, where it descends into the Ythan valley at Auchterless railway station.

So far, the country forms a somewhat high tableland, much of it being under the plough, but there is no wood except on the Hill of Lendrum (558), near Rosebrae, which is now covered with trees. From the old Castle of Towie, close to Auchterless railway station, the line extends northward to the crest of Birkenhills, where it again bends to the west to Loch of Braefoot, a shallow and weedy sheet of water some five or six acres in extent, in the centre of which is an island covered with willow scrub, the haunt of the Sedge Warbler, Reed Bunting, Willow Wren, Snipe, and Water Hen.

From this point the limit of our area now runs past the farms of Glaslaw and Cleftbog. About half-a-mile west-north-west of the latter, and on higher ground, lies a sheet of water known as the Loch of Pitglassie, but

locally called the "Geese Peel." This loch lies upon the southern point of the Hill of Carlincraig, a moor of many acres' extent, covered with whin, broom, and heath, chiefly the two former, and its southern side is within our watershed. From this loch our line runs along the low hills that form the north side of the Howe of Pitglassie, a valley which runs parallel with the depression along which the river Ythan flows, about one-and-three-quarter miles to the southward. The Howe of Pitglassie being under the hands of the husbandman, the district has little attraction for the ornithologist. Passing on from Pitglassie, the Old Yock, locally "Auldyock," a fine agricultural district, is reached. Forty years ago this was a wild dreary waste, with here and there a moorland croft of the meanest description; the people poor and overworked, the ground wet and boggy; a region where the Mallard and Snipe found a congenial home, and where the cry of the Curlew and Plover could be heard on the heathery uplands. In 1895 the writer revisited this place, and so altered had it become since his early recollections of it that it was altogether unrecognisable. Heath and bogs had given place to well-cultivated farms, comfortable homesteads, and good roads.

From Old Yock the watershed still holds to the westward, past Lenshie on to Gariochsford, which is situated near the top of the glen through which the burn of that name flows. One branch of this streamlet has its rise in a copious spring, deep and dark, that lies near the village or "clachan" of Balgaveny, and, like most such springs throughout Scotland, has its legend in which buried treasure forms the chief feature. Another streamlet rises at Denhead, and the two join near Balgaveny to form a tributary to the Ythan. Along these narrow glens there is some cultivated land, but there is yet much in its natural state, and from its nature likely to remain so. There is

little wood, consequently it has no attraction for the feathered tribes, nor for quadrupeds, except a few hares. Leaving Denhead, the course of the watershed runs past Lochmoss to near the Wells of Ythan, where it sweeps abruptly north-west to Cranloch. At the Wells of Ythan the valley broadens out, and is surrounded by cultivated land, except to the south and south-west, where the low heath-clad hills of Cranloch and Auchentender are seen. From Cranloch the boundary line turns sharply and follows a south-south-west course across the southern shoulder of the Hill of Auchentender, passing Bisset Woods (939) and the Saddle Hill (964) on the left; and then to Wind's Eye (1029), where the line turns to the south-west by south, by Melshack Moss to the top of Knockandy Hill (1426), which forms part of the estate of Wardhouse. Around the mansion house of Wardhouse there is much wood, otherwise the country traversed affords nothing but heath, low hills, and cultivated land. From Wardhouse we descend into the low marshy ground lying in the northern corner of the Garioch district. We pass Haremire and Braefolds, with the woods of Leith Hall lying to the east, and cross the Great North of Scotland Railway to the west of Kennethmont station, and proceed to Seggieden, Towie, and then strike the head-waters of the Gady Burn, near Druminnor House, and, proceeding by Stonedyke, reach the Hill of Clova, leaving the Mire of Midgates (1586) on the east. Thence we make our way to Badingair Hill (1556), from which rises Blacklatch Burn. Here we are almost in the centre of the group of heights known as the Correen Hills, whose flat heath-covered tops are suitable only for Grouse, White Hares, and Sheep. From their summits can be seen the most of the Garioch and the Vale of Alford. This extensive district is a purely agricultural one, with many fair-sized woods interspersed; but it is not in any way remarkable zoologically. The resident quadrupeds and birds

are few and of the most common kinds. From this high plateau are to be seen many thousands of acres of heath-covered hilly ground, with extensive plantations on the hill known as Manabattock, on the estate of Castle Forbes, which afford excellent cover for Black Game and Roe Deer, and many of our summer songsters.

The eastern side of the Glen of Terpersie is closed in by the hill of Dumbarton (1269), which has a considerable extent of flat ground on its top. This glen runs almost north and south, and is divided into two narrow ravines towards its northern end, but broadens out at its upper end. The two narrow glens are covered with low birch, willow, mountain ash, broom, and heather. Along the eastern ravine flows the Burn of Clistie, while the western one is watered by Cot-burn; both join Blacklatch Burn, and their united waters are known as the Esset, which is a tributary of the Don. Leaving the Correen Hills, our way leads on to Brux Hill (1558), and thence strikes west by south into the valley at Birkenbrewl, which is crossed to reach the Hill of Clova (1611). This hill is clothed around its base with wood, amongst which stands Clova House. From the top of this eminence is seen, at a short distance to the north-north-west, the Buck of the Cabrach (2368). The valley is a long and rather wide one, extending from Kearn in the north to near Kildrummy Castle in the south, and is flanked by heath-covered hills with little wood except at Mossat, Ardhuncart, Wester Clova, and Kildrummy Castle. From Clova Hill the watershed runs west-by-south, passing mid-way between Dun Mount and Craig an Innean, onward to Creag an Sgor, thence it bends north to Allt Sughain Hill (1862). A little to the north of this it again turns to the south-west towards Geal Charn (2241), thus rounding the top of Glen Bucket, and passing on to the head-waters of Littleglen Burn, which stream ultimately

becomes the Water of Nochty, and thence again on to Dun Muir (2475), Carn Mor (2636), and Carn Liath (2598). Here, for a good many miles, our course leads us over a wild and extensive wilderness of hills and mountains, deep corries, and high rugged cliffs, among which snow lies almost all the year round. Seen under favourable conditions of light, as when the sun has just risen, this view is one of the most sublimely grand that can be obtained; perhaps, an hour later, the whole may be shrouded in mist, when some of the mightier Bens, towering high above, look like so many islands surrounded by a deep and troubled sea. To the lover of the picturesque this is a grand district, and to the geologist it has also many attractions. Around are granites of many varieties, and other rocks, some of which contain rich lodes of iron. To the zoologist, however, there is little life visible: Grouse are of course plentiful, with Plover and a few Dotterel in the summer; while sailing leisurely around or above the dizzy heights, the Golden Eagle may occasionally be seen to suddenly swoop upon some hapless mountain hare, but beyond this all is still and lifeless.

From Carn Liath we proceed along the ridge to the Liath road, the communication between Cock Bridge, in upper Strathdon, and Tomintoul, thence along the road in a south-south-east direction until opposite Beinn a Chruinnach (2536), where we again strike to the south-south-west on to Carn Ealasaid (2600). From this top we turn abruptly to the west, holding along the county march, past Tolm Buirich on to Creag Mheann (2328), until we take a long sweep to the south-east-by-south, passing the head-waters of the Don, near Inchrory; thence along the top of Meikle Geal Charn (2633), with the Brown Cow Hill (2721) on our left, to Carn Ulie, where Wester Shenalt, a tributary of the Gairn, takes its rise. Here our route turns to the south-west-by-west, passing Loch

Builg on our right. This loch lies on the watershed between the Gairn and the Avon, its apparent outlet being to the latter; but there is a subterranean flow from the south end to the Gairn. Loch Builg is well stocked with Char, and it may be that in its younger stages this fish finds its way to the Gairn, thence to the Dee, from which river examples are occasionally obtained. From Loch Builg our way lies along Ben Avon (3843), from which several streamlets flow to join the Gairn in the glen of that name. Around us extend many heath-covered hills and mountains, with immense areas of peat moss; altogether it is a region of sterility whose deathlike stillness is occasionally broken by the wail of the Golden Plover or the chatter of the Wheat-ear as it flits from bank to bank in evident wonderment at our presence. From Ben Avon our line holds to the south-west, passing the sources of the Quoich Water. Crossing Beinn a' Bhuird (3924), on the east slope of which lies Dubh Lochan which sends its waters to the Quoich, we, after several short bends, touch on our way the head-waters of Allt an Dubh-ghlinne, a tributary of the Quoich, to Beinn a' Chaoruinn (3553), where Glas Allt, which joins Derry Burn, takes it rise. Thence onward to Loch Etchachan (3100), which lies on the eastern side of Ben Muich Dhui (4296). This loch, like others so highly situated, has no trees with which to adorn its banks, and is therefore dull and uninviting. We now proceed along the side of Ben Muich Dhui in a south-west direction, rounding its southern shoulder, with Lochan Uaine on our left, then north-west to the Pools of Dee, whence we strike south-west-by-west to Braeriach (4248), where we find the Wells of Dee, the main source of that river. Here the scenery is grand in the extreme.

From the main source of the Dee our line strikes almost due south, passing Cairn Toul (4241) on the left, onwards along the west edge of Lochan Suarach (2840) to Monadh

Mor (3651), beyond which we pass Beinn Bhrotain (3795) on the left, and keep the course of Allt Dhaidh Mor—a feeder of the Geldie—from its source for some distance. Leaving this streamlet, our way leads along the highest ground to the source of another tributary of the same burn, and then holds slightly westward along the watershed between Glen Feshie and Glen Geldie, and, after skirting the head-waters of the latter, we continue in an almost straight course to Carn an Fhidhleir (Cairn Ealar) (3276). Glen Geldie is a long, rather wide valley, flanked by heath-covered hills. It has, however, neither tree nor bush, and it is a solitary wilderness with scarcely a sign of life and without one redeeming feature to recommend it.

From Cairn Ealar we turn sharply to the east to the summit of An Sgarsoch (3300), from whose north side rise Allt a' Chaorruinn and Allt Coire an t-Seilich, tributaries of the Geldie. From Sgarsoch we proceed south-east-by-south to the top of Braigh Coire Caochan nan Laogh, at the north base of which rises the Bynack Burn; and from this hill our line turns to the north-north-east over Coire an Loch (2457), thence east to Sron a' Bhoididh (2131), where rises Allt an t-Seilich, which joins Bynack Burn, near Bynack Lodge, and onward in the same direction to Carn Bhac (3014). To the northward of this, Glen Ey Forest lies between us and the Dee, a wide expanse of mountain, moor, and glen—a wild, heathy, almost trackless region. Here the watershed turns to the south-south-east and the south, to the top of Beinn Iutharn Mhor (3424), and then to the east, passing the north end of Loch nan Eun (whose waters form Allt Easgaidh, and find their way into the Tay), with Beinn Iutharn Bheag (3011) on our left or north side. Still steering mainly eastward, we reach Carn Geoidh (3194) and Cairnwell (3059). By the way, on our left, lies Loch Brothachan, a mountain lochlet whose waters join Baddoch Burn, a

tributary of the Clunie. From Cairnwell we pass on to Glas Meal (3483), where many small streams forming the head-waters of the Clunie rise. At this point our route turns to the north-east-by-east, passing Cairn na Glasha (3484) to Tolmount (3143), thence north to Knaps of Fafernie (3059), and onward until we reach Cairn Bannoch (3314). Here the way again turns to the east, with Dubh Loch and Loch Muick on our left. Thus far, and still onward for several miles, the ground is high and sterile in the extreme, and the rocks chiefly granite; but the scenery at many points has a grandeur that scarcely admits of description. Thus our march continues until we pass Dog Hillock (2400); and a little eastward of this the line bends to south-east-by-south, rounding the head-waters of Allt Darrarie, a tributary of the Muick. This bend takes our line again to the north, and we pass along the Black Hill of Mark (2497), Round Hill of Mark (2257), and on to Fasheilach (2362). From the point now reached, Glen Muick is seen north-east-by-east, and the eye rests with pleasure on its waters, fine woods, birch thickets, and bracken-covered banks—a great relief after the monotonous heath and granite we have passed over for so many miles.

Resuming our journey eastward, a few miles bring us to Hare Cairn (2203), and thence (crossing the Fir Mount road) Mount Keen (3077), passing on our way the head-waters of several tributaries to Tanner Water. From the top of Mount Keen an extensive view is to be obtained, and along its base, on the north side, lies the finely-wooded forest of Glen Tanner, with Cairn Leughan, Red Craig, and Clochan Yell looming large, and with numerous narrow glens converging to the main depression; on our right is the deep, dark, gloomy Glen Mark; while all around us lie mountains, moors, glens, and straths, making one of the many grand and imposing pictures in which Scotland is so rich. Here may be seen the Ptarmigan in its lovely variegated plumage,

and its nest might be found did time allow us to make the search. Braid Cairn, however, invites us onward, and we cross its brow (2907) and pass to Cock Cairn (2387), thence to the Hill of Cat (2435). Crossing Gannoch (2396), we proceed to Mudlee Bracks (2259), and still going eastward to the Hill of Cammie (2028), passing Loch Tennet, whose waters form the source of the Water of Aven. Here our route turns south-east to Mount Battock (2555), and viewing our district from the mountain top, the immediate foreground is filled in by the two Cock Hills (1960 and 1780), Peter's Hill (2023), Luther Moss, and the deep valley along which the Aven flows. Not a tree is to be seen in these solitudes, which are mostly clothed in heather, through which here and there granite ribs crop out. Nothing seems to thrive except the "Averen" *(Rubus chamæmorus)*, whose fine white flowers are seen in profusion as they struggle through and overtop the heath.

From Mount Battock the line turns to south-east-by-south over the Hill of Saughs (2142) onward to the Hill of Fingaray (1560), which stands at the top of Glen Dye, and at whose base the Water of Dye takes its rise. Still holding the same course, Murmannoch (1557) is soon reached. From the north side of this hill rises Kettock Burn, which flows through the glen formed by Bonnyfleeces (1482) and Rough Bank (1516). Here the route turns south-by-west, crossing Craigangowan on to Sturdy Hill (1784), where rises the Water of Charr, which, like Kettock Burn, is a tributary of the Dye. At this point the line turns sharply to the east, holding along the high ground, and then bends north-east to Hound Hillock (1698), onward to Whitelaws (1664) and Cairn o' Mount (1488), where Stag Burn takes its rise and joins the Dye near Spitalburn. From Cairn o' Mount our way leads to Goyle Hill (1527), whence, after a varied course, Tipperweir (1440) and South Dennetys are reached; near the latter

Builg Burn takes its rise—the last tributary to the Dye we have to pass. Right to the north of this, Kerloch (1747) is seen in the immediate foreground. From the point now reached the line strikes east-by-south, passing Mid Hill, Leachie Hill, Bogjorgan, Muir of Germany, Jacksbank, Foord, Fallside, Briggs of Criggie, and Picts Kiln. For the last eight or ten miles our journey has been through a cultivated country, with but little wood, except about Glenbervie; and from the granite hills we have entered the region of *Sandstone Conglomerate.* Passing the south end of the Loch of Lumgair, the district around is clayey, and produces poor crops. There are numerous small clumps and belts of trees, but nothing that can claim the name of wood or forest. This remark applies to the whole district, as far as we can see it, lying north and south of Stonehaven. From the Loch of Lumgair we are but two miles from the sea at Fowls-heugh, whence we started.

The country within the line drawn is of a very varied character, alternating in mountain chains (which in general run from west to east), long valleys, and broad level plains. The chief streams are the Dee, which, counting its windings, is 85 miles long; the Don, 80 miles; the Ythan, 37 miles; and the Ugie, 23 miles. These rivers run in the same direction as the mountain chains, and each has tributaries that flow along the lateral valleys and debouch into the main streams on both sides of their courses. These rivers and their tributaries are all good trout streams, and some of them are famous for salmon, the Dee taking chief place in this respect.

Lochs are not numerous, nor are any of them of great extent. There are Loch Muick, Dubh Loch, Loch Kander (named in the Ordinance Survey Maps Ceann-mor), Loch Brothachan, Loch Callater, Loch Phadraig, Lochan an Eoin, Loch Dubh, and Lochnagar. These are all situated near

the base of our southern watershed. Also there are Loch Kinord, Loch Davan, Loch of Braeroddach, and the Lochs of Skene and Park. These latter are to the north of the Dee, and discharge their waters into that river. Then we have the Loch of Lumgair, which may now more fitly be called the "Marsh of Lumgair," and the Loch of Loirston. These two lochs are both in Kincardineshire—the former a little south of Stonehaven, the latter near Aberdeen. The Loch of Loirston is ugly in the extreme. It is surrounded by mounds of boulder drift, while the bottom is strewn with innumerable blocks of coarse granite and gneiss. This loch, uninviting as it is to man, is a great resort of Sea Gulls, Ducks, etc., and on its borders have been obtained the now rare Dotterel *(Charadrius morinellus)*. Along the coast of Aberdeenshire there are the Bishop and Corby Lochs, Sand Loch, Cotehill Loch, and the Meikle Loch of Slains, the Loch of Lochills, Loch of Kininmonth, Loch of Pitglassie, and Loch of Strathbeg.

None of our lakes, with the exception of Loch Callater, is accessible to salmon; and with the exception of Strathbeg, Skene, Park, Braeroddach, Pitglassie, and Lumgair, none of them is of much zoological importance. These, however, are largely frequented by birds. This is especially the case with regard to Strathbeg, a half-moon shaped sheet of water which covers about 550 acres; indeed, it is one of the finest places for the study of the feathered tribes along the east coast of Scotland, and about it many rarities have been obtained that are seldom seen in other parts of "Dee." Between the loch and the sea lies a broad belt of sand, blown in some places into rounded mounds, overgrown with bents and many other plants. This is known as Back Bar. At the western end of the Bar, and along the side of the loch, is a broad flat of marshy ground. Upon this and along Back Bar breed the Dunlin, Redshank, Stock-dove, Ringed Plover, Common

and Lesser Terns, Eider, and the Sheldrake; and among these hillocks, in 1888, Sand Grouse congregated in numbers. The loch was formerly connected with the sea at the eastern end, but the communication is now cut off. It is said to have been blown full of sand in one night. Some recent writers state that the loch has now no communication with the sea, but near the western end is a wide stream flowing from the loch, up which come Sea Trout and Flounders, affording good sport for anglers. Generally speaking, the loch is shallow, being about 3½ feet deep, and this induced a Mr. Sellar, about the end of the eighteenth century, to attempt to drain it. Fortunately he failed, and thus was preserved the finest water resort of wild fowl that exists on the east coast of Scotland.

Besides the sheets of water named, several have disappeared within historic times, viz., the Black Loch of Tillydesk, which existed about four centuries ago, and afterwards became a moss; the Loch of Old Aberdeen (a sheet of water some acres in extent), which was situated near to where the Botanic Garden now is, and existed until about 1730; while the Loch of New Aberdeen, an extensive sheet that lay on the north-west side of the city, remained till about 1710, when it was acquired by the Tontine Company for building purposes. Of the last loch, more will be said when we have the Black-headed Gull under consideration. Further, within the past fifty years, the Loch of Leys, near Banchory, the Loch of Pottertown, to the north of Aberdeen, and the Loch of Auchlossan, near Aboyne, have also vanished. The two latter, in their time, were extensive breeding places of the Black-headed Gull, Ducks, and other water fowl.

The Valley of the Dee is about seventy miles in length, and around the infant waters of the river stand the highest mountains within our district, those of greatest altitude being Ben Muich Dhui, Braeriach, and Cairn Toul. Viewed

from the summit of any of these, the country around presents, as far as the eye can reach, an unbroken array of mountains, bold frowning rocky heights, and deep glens, and wide flats of moor and moss, with practically no ground under cultivation or capable of being so. Little or no wood now exists, although in former times it had been otherwise. This elevated ground is the abode of the Eagle, Ptarmigan, and Mountain Hare, while the lower hills and moors are tenanted by Red Deer and Grouse. In the depressions along which the rivers Dee, Don, and Ythan flow, after the first few miles of their course, there is much wood, which, in some quarters, extends into large forests—notably, Mar, Invercauld, Balmoral, Ballochbuie, Glen Muick, and Glen Tanner (which are all retained as Deer Forests), and the valley of the Feugh; and the forests round about Monymusk, Castle Forbes, and Castle Newe on the Don. On the Ythan there are the extensive woods of Haddo House, Braes of Gight, and Fyvie.

Around the head-waters of the Don there is no wood. The valley is formed by long hill slopes suited to sheep-grazing and grouse, while along both sides of the stream lie peat and marshy ground. Nor is there any wood about the source of the Ythan, cultivation having extended to its upper waters. Of peat moss and marsh land there is abundance, the most extensive stretches being about New Pitsligo, Strichen, Tillydesk, and Rora; on Bennachie, and the plateau of the west side of the Hill of Fare; Monaltrie Moss, Moine Bhealaidh (the Yellow Moss), near the head of Glen Derry, and that at the lower end of Glen Geldie. There is also a series of "Moss hags" three miles in extent between Mount Battock and Clochnaben, and from Fir Mount to near Broad Cairn; the Red Moss near Cookney, known also as Netherley Moss; and Charleston Moss or Hare Moss, a few miles south of Aberdeen, and many others of less extent. These are mentioned because they are frequented by birds of various

kinds, and constitute resting-places for our annual migrants, and among them are obtained such of the lower vertebrates as our district affords. As we advance from the western end of Dee, the ground generally becomes of less elevation, as also do the hill ranges, consequently there is more ground under tillage, and along the whole east end cultivation has been carried to a high degree of perfection.

At one time it would seem that the lower parts of Buchan and Formartine, which form a considerable portion of our coast line, had been a continuous peat moss, prior to which the country had been closely covered with oaks, the roots of which trees are still "firmly fixed in the clay which seems to have been to them a congenial soil." In the eastern and more particularly in the middle portion of our area, there are numerous woods and birch thickets, very favourable to Black Game and resorts of our feathered summer visitors. Large portions of "Dee" are well suited to the wants of our wild quadrupeds; but these, owing to the belief that they were inimical to the interests of game preservers, and owing to the general use of fire-arms, have almost disappeared.

There are few districts in Scotland where the lover of the picturesque can find finer scenery than in "Dee." In many places the towering mountains, and the deep, dark, corries — often snow-patched throughout summer — have a stern grandeur that can only be properly understood by those who visit them. In other localities throughout our district nature has decked the lower glens with graceful birch, flowers, ferns, and many coloured mosses. These, combined with beautiful waterfalls, compose pictures that are truly delightful; and yet again there are solitary moors of vast extent, far from the ordinary haunts of men, where the visitor may wander for days without meeting a fellow-creature, and where little or no life is visible. Still, such scenes are calculated to foster contemplation in the

thoughtful mind, and arouse us to think of the many evolutions that have taken place in nature, and the numerous creatures that have lived and disappeared from the country around us, and to speculate on their descendants that are now present—what they are, and what they in turn may become.

BISHOP LOCH.

THE VERTEBRATE FAUNA OF "DEE."

Class I.—MAMMALIA.

Order CHIROPTERA.—Bats.

Family VESPERTILIONIDÆ.

Of this family, the only one of the order represented, we have but a very limited number of species. After searching and visiting many places likely to be frequented by Bats, I have only been able to find the following:—

Genus VESPERTILIO.

Vespertilio daubentoni, *Leister.*

This is by far the most common and abundant Bat we have. In company with two friends—Mr. R. Gibb, Aberdeen, and Mr. Geo. Sim, Gourdas, Fyvie—I paid a visit in 1890 to the old Castle of Gight, and between the joints of the stone roof of one of the vaults we found hundreds of them. In August, 1891, I visited Manar, on the Don, and in an attic in the keeper's house, saw immense numbers hanging in clusters from the roof of the apartment.

MacGillivray says: "I have not met with so much as a single Bat of any species in the district, but several persons have informed me that they have seen Bats repeatedly."

Bats are, however, now quite common all along the Valley of the Dee, and I saw them flying about the Castleton of Braemar abundantly in July, 1893.

In the *Edin. New Phil. Journal* (1844), vol. xxxvii., p. 392, there is a paper on "The Mammalia of the Counties of Aberdeen and Kincardine" by MacGillivray, in which he says that *V. daubentoni* is "very abundant about Old Aberdeen, and in great numbers about Old Machar Cathedral." Subsequent to this, however, he made a search for Bats within the roof of Old Machar Cathedral, and took some hundreds, all of which were of this species. Since the

date of this visit, the Cathedral has been altered and a new roof put on.

On July 6th, 1891, I explored, along with Messrs. Gibb and Simpson, both towers of the Cathedral and the whole roof, but saw neither Bats nor any trace of them, and it is evident they have never returned since the roof was renewed.

Vespertilio pipistrellus, *Geoffroy.* Common Bat.

Although named "Common," this does not appear to be an abundant species in "Dee." It has been several times found at Waterton Paper Works by Mr. A. Macpherson, and sent to me. I have also obtained several specimens within the city of Aberdeen.

In the paper by MacGillivray already referred to, he says: "Of the habits of this species as observed in Aberdeenshire, I have nothing to say, it being impossible to distinguish it on the wing from *V. daubentoni.* In July, 1819, I found a specimen in Corby Den, Maryculter. Mr. Leslie has in his collection a specimen said to have been found in Aberdeenshire."

Genus PLECOTUS, *Geoff.*

Plecotus auritus, *Geoff.* Long-eared Bat.

Common all over the district.

Order INSECTIVORA.

Family ERINACEADÆ.

Genus ERINACEUS, *Linn.*

Erinaceus europœus, *Linn.* Hedgehog.

Again referring to MacGillivray's paper, we find regarding this animal that "although twenty years ago of very rare occurrence, or confined to particular tracts, the Hedgehog is now generally dispersed over the district, being found in all the lower parts, from the coast to the higher valleys in the interior—in many places in great abundance. It is specially plentiful along the Dee, as at Ballater, Banchory, and about

Aberdeen, as well as in the parishes on the Don. In some parts of Formartine it is also abundant, and of late years has extended more or less over the greater part of Buchan."

In the account of the parish of St. Fergus given in the *N. S. A. of Aberdeenshire*, 1843, p. 189, it is said: "About three years ago, the Hedgehog, which was not before known to have been a *locum tenens* in the district, was discovered in St. Fergus on the farm of Nether-hill." In the same publication, under the parish of Alford, it is said that the Hedgehog appeared "about fifteen years ago." It is also noted for the parish of Chapel of Garioch, and for those of Logie-Buchan, Lumphanan, and Leochel-Cushnie.

This inoffensive animal is generally distributed all over "Dee," but is doomed to early extinction, for a war of extermination is being waged against it by game preservers.

Family TALPIDÆ.

Genus TALPA, *Linn.*

Talpa europœa, *Linn.* **Mole.**

Abundant all over the district.

Family SORICIDÆ.

Genus SOREX.

Sorex araneus, *Linn.* **Common Shrew. "Thraw Mouse."**

Common everywhere, and often found dead upon the paths, heaths, and waysides. This species is subject to considerable variation in size; in many localities it is above the average, with the feet white, while in others it is small and of an almost uniform dark grey all over. Others are dark above, with the under parts light grey; and I have in my possession a specimen having large patches of white over the sides and back. Formerly it was subjected to much persecution by the rural inhabitants, owing to the belief that if a "Thraw Mouse" was allowed to run round the feet or hands the limbs would lose their power for ever afterwards. It was also supposed to cause death to cattle, should it come in contact with them.

The Shrew is to be found on the low ground bordering the sea coast, and upon the summits of our highest mountains. Mr. Alexander Inkson McConnochie saw one run under a small patch of snow at the cairn on the top of Ben Muich Dhui in September, 1896.

Sorex fodiens, *Pallas.* **Water Shrew.**

This and *S. remifer*, the Oared Shrew of Bell, are now believed to be varieties of the same species. Both forms are equally abundant in suitable localities throughout "Dee."

MacGillivray, speaking of *Sorex tetragonurus*, Square-tailed Shrew, and *Sorex rusticus*, Field Shrew, remarks: "Being distinguishable only by careful observation and comparison, I am unable to specify localities for them." Of the latter he says: "Apparently not uncommon; I have found it at Ballater." The Water Shrew, which he calls the "White-breasted Water Shrew" *(Hydrosorex fodiens)*, is, he observes, "seen only in the lower parts of Birss."

Order CARNIVORA.

Family FELIDÆ.

Genus FELIS.

Felis catus, *Linn.* **Wild Cat.**

"The Association for the Destruction of Foxes and other Ravenous Beasts and Birds, and for the Preservation of Sheep, Game, and Poultry, within the Parishes of Braemar, Crathie, Glenmuick, Tullich, and Glengarden," existed, according to the *O. S. A.*, vol. xiv., pp. 348-9, for ten years from 15th January, 1776. During that period we find that forty-four Wild Cats were killed.

In the *O. S. A.* there are but two notices of this animal within the bounds of "Dee," one from the united parishes of Glenmuick, Tullich, and Glengairn, the other from Crathie and Braemar.

In the *N. S. A. of Aberdeenshire* the species is again recorded from two localities, viz., the parish of Turriff and the parish of Leochel-Cushnie. The mention of the Wild Cat in these

places may or may not be quite satisfactory, and must be taken with caution, for at the present time Wild Cats are often reported as having been observed or killed, which, when the evidence is carefully sifted, or the specimens examined, have, in the great majority of cases, turned out to be mere domestic cats that had taken to the woods. There is every reason to believe, however, that the meagre notices given in the Statistical Accounts, referring as they do to a period when the Wild Cat was far more abundant than at present, may be accepted as fairly satisfactory, although, perhaps, in a less degree as regards the publication of 1843. Turriff, however, is not within, but beyond, the northern margin of "Dee;" still there are few districts within the county of Aberdeen where the Wild Cat is less likely to have held out to such a comparatively late date; therefore, the statement ought to be taken with a considerable amount of reserve.

In Robertson's *General View of the Agriculture of Kincardineshire*, which was "brought down only to 1807," under "Game, sect. 1, Wild Animals," p. 395, it is stated that "Wild Cats are found in several of the woods."

In *Braemar, its Topography and Natural History* (1861), by the Rev. James M. Crombie, p. 71, we are told that the "Wild Cat is, however, far from being common, thanks to the exertions of the gamekeepers who contrive to keep them down, and in all probability will soon succeed in extirpating them altogether." Few real lovers of nature will, we think, join in the "thanks" of this reverend gentleman.

In Dr. George Skene Keith's *General View of the Agriculture of Aberdeenshire* (1811), a list of the wild animals is given at p. 509, but no notice is taken of the Wild Cat.

MacGillivray says that it was "generally distributed; at one time very common, but now extremely rare."

Smith, in his *New History of Aberdeenshire* (1875), vol. i., p. 686, gives a long list of animals for the parishes of Glenmuick, Tullich, and Glengairn; and again in vol. ii., p. 1237, under parish of Strathdon, wherein the Wild Cat finds a place. These lists are, however, unreliable.

Turning to Harvie-Brown's "Rarer Animals of Scotland," *Zoologist*, 1882, pp. 11-12, we tread upon solid ground, and learn that "Two Wild Cats were killed by a gamekeeper

named Clark in Glendye in 1850; one in the Invercauld district, 1862, Feb. 11th, by James Lundie; one about 1850 near Old Mar Lodge by Mr. M'Donald, head keeper. Two young were obtained at the same period, and were kept for some time by the Duke of Leeds. One was killed by Mr. John Robb above Bridge of Alford on the Don in 1862."

On 17th June, 1875, a male Wild Cat killed in Glen Tanner passed through my hands, and was in the possession of the late Sir W. C. Brooks. One was killed at Old Mar Lodge in 1890, and another in Glenmuick in December, 1891. In the *Aberdeen Evening Gazette* of Feb. 24th, 1892, a Wild Cat was reported to have been killed by Mr. A. Grant, gamekeeper, Glenmuick. Upon enquiry, however, I learned that this was not a Wild Cat, but merely a tame cat that had taken to the woods.

"What are said to be Wild Cats are occasionally found in solitary places, but there is no reason to doubt whether they are not merely such as have escaped from a state of domestication."—*N. S. A.*, p. 217, parish of Dunnottar.

"The Wild Cat is rare, if not now extinct."—*N. S. A.*, p. 234, parish of Strachan.

It may, therefore, be said that this species has now scarcely a footing within "Dee," unless in some of the wild solitary glens in the west of our district; but even this seems doubtful, considering the extraordinary desolation of these glens, and the fact that they are covered for such a length of time with deep winter snows, rendering food extremely difficult, if not impossible, to obtain during a great part of the year. We fear that *Felis catus* has now to be numbered with the Wild Boar, Wolf, and others of byegone days, so far as our area is concerned.

Family CANIDÆ.

Genus VULPES.

Canis vulpes, *Linn.* Fox. "Tod."

Still in fair abundance, but yearly decreasing. Referring to the Kemnay MS., already mentioned, we find that between January, 1776, and September, 1779, 226 Foxes were

killed within the small district covered by that list. This shows how very numerous they were then as compared with the present time. It is just possible that an increase may take place, as many proprietors of deer forests preserve the Fox in order to keep down grouse which are not wanted there.

Family MUSTELIDÆ.

Genus MARTES, *Ray.*

Martes abietum, *Ray.* Pine Marten.

In the *O. S. A.* this animal is only thrice mentioned, viz. in vol. ix., p. 108, for the parish of Birse; vol. xii., p. 228, for the united parishes of Glenmuick, Tullich, and Glengairn; and vol. xiv., p. 339, for the parish of Crathie and Braemar, but nothing is said of them beyond the mere fact of their existence.

In the *N. S. A. of Aberdeenshire* (1843), p. 496, parish of Alford, it is said: "Three species have lately come into it—the Pine Marten and the Hedgehog about fifteen years ago, and the Grey Warren Rabbit more recently;" and again, p. 535, parish of Strathdon: "Five Martens *(Martes fagorum)* were killed some years ago in one season in Glenernan."

In 1864 "a pair were killed at Littlewood, near Alford. Two were seen and hunted at Craigievar, but not taken, about 1868. Six have been killed during the last ten years (1870-80) in Glen Tanner. They are still pretty numerous in parts of Braemar. Two were killed in Glen Derry two winters ago (1878-79)." (Harvie-Brown's "Rarer Animals of Scotland," *Zoologist*, 1882).

One was killed in the woods of Ellon, 1st June, 1874. Another, a male, was sent to me on 25th February, 1874, but the locality was not noted. I have also received several from the neighbourhood of Lochnagar, the last on April 10th, 1880. One was killed at the "Lion's Face," Braemar, in 1883, and two others since. On August 28th, 1888, one was killed at Urie, near Stonehaven, and sent to me; it is now in Urie House.

One was caught near Gourdas, Fyvie, November 19th, 1894, as recorded by Mr. Geo. Sim, Gourdas, in *Ann. Scot. Nat.*

Hist., for April, 1895, p. 120, and the Editor adds a note to say that he had "examined a female obtained near Fyvie during the second week of November last." I am informed by the proprietor of Lesmurdie, Deveronside, that a Pine Marten was killed on his estate in the second week of April, 1899, but he only saw it some weeks after the keeper had nailed it up among other vermin. Lesmurdie is, however, on the northern border of our area, and within "Moray."

Genus MUSTELA.

Mustela vulgaris, *Linn.* Common Weasel. "Whitret." "Futret."

Abundant in suitable localities, and this seems to have been so for a very long time.

Mustela erminea, *Linn.* Stoat. Ermine.

Although this animal, like the Weasel, is slaughtered in great numbers every year, it is still able to maintain its ground against all its foes, and occurs in fair abundance all over "Dee."

Mustela putorius, *Linn.* Polecat. "Foumart." "Fulmart."

In the Upper Deeside list just referred to, only seventeen Polecats had been entered as killed from 21st August, 1777, to 25th September, 1779. It is obvious that this list does not indicate very clearly the numbers of Polecats that really existed in those regions at the time specified. They must have been far more numerous than such would lead us to suppose.

In the *O. S. A.* there are eight notices given of the occurrence of the Polecat within the confines of "Dee": from the parishes of Drumblade, Birse, the united parish of Glenmuick-Tullich-Glengairn, Crathie-Braemar, Rayne, Deer, and Lonmay; but beyond the mere name, no particulars are given. The same remark applies to the *N. S. A. of Aberdeenshire* in which the animal is mentioned, viz., for the parishes of Strathdon, Chapel of Garioch, Drumoak, Methlick, Lumphanan, and Leochel-Cushnie.

In Robertson's *General View of the Agriculture of Kincardineshire*, chap. 15, it is stated that the "Polecat or Fumart is

sometimes met with, but the race is not numerous, being proscribed on account of its depredations on the poultry."

In Smith's *New History of Aberdeenshire*, the Polecat is only twice mentioned.

Turning to Harvie-Brown's "Rarer Animals of Scotland," *Zoologist*, 1882, we find that "three Polecats were killed by Mr. Mowat, keeper at Urie, Kincardineshire, in 1843, and another between 1849 and 1853. . . . . In 1851, one of these animals attacked a Ferret belonging to Mr. Mowat. About 1832, one was killed in a moss near Pitsligo, Aberdeenshire, and another at Know-head of Pitullie in 1834."

In 1850, one was obtained on the estate of Scobbach (now Ardmiddle) by a brother of the present writer; about 1853, another was killed in an old lime kiln on the farm of Boghead, both in the parish of Turriff. In two years' trapping, Mr. Mackie, keeper, Littlewood, Alford, killed upwards of thirty. Twenty years ago, Polecats were numerous at Crathie. In 1858, one was killed on the estate of Ellon, Aberdeenshire, by Mr. M'Donald, keeper there. From 1865 to 1870, six were sent to me from Yockieshill, Mintlaw. One was killed at Edinglassie, Strathdon, in 1872, and another at Kinnaird's Head, near Fraserburgh, in 1879 or 1880. In 1882, one was killed at the "Back of the Lion's Face," Braemar, and two others near Invercauld boat-house. In 1890, one was shot in Ballochbuie Forest.

In Horn's *Mammalia of Buchan*, the Polecat is given as "formerly very common" ["and still occasionally killed among the cliffs on the rock-bound coast."]

Mr. Nicol, gamekeeper, Skene House, informs me that, up to 1875, Polecats were "fairly abundant" there, but they have now completely disappeared.

If this fine animal is not already extinct within "Dee," it cannot fail to be so in a very short time, for the hand of every keeper, sportsman, landowner, farmer, and rabbit trapper is raised against it.

Genus LUTRA.

Lutra vulgaris, *Erxl.* Otter.

Although the Otter is generally becoming scarcer within "Dee," there are still a few to be seen along the main

streams, and even in some of the smaller rivulets, where food is abundant and a safe retreat within easy reach. The Otter is also occasionally killed along the rocky parts of the coast of Aberdeen and Kincardine shires, in which localities its food consists of marine fishes.

This animal is not exclusively a fish-feeder, however, for I have frequently found in its stomach the remains of the Water Vole; and, as it often makes considerable journeys across country, there is little doubt that any small fur-bearing animal it is capable of capturing would also be devoured. Mr. Harvie-Brown informs me that he has found bits of lobster shell amongst its rejectamenta.

Bell says that "the Otter goes with young nine weeks, and produces from three to five young ones in March or April." On February 9th, 1897, a female was trapped at Elchies, on the Spey, and while in the trap she gave birth to a young one, evidently the last of her litter, as, when examined, she contained no others. The young one was fully formed and ready for birth, and had a good coat of hair. Its eyes were closely sealed, showing that, like many other animals, the Otter is born blind.

Genus MELES, *Cew.*

Meles taxus, *Bodd.* **Badger. "Brock."**

None of our native animals is less deserving of persecution than the Badger, and yet none has been more subjected to it, with the result that it is fast approaching extinction. Several circumstances have contributed to bring about its present reduction in numbers, chief amongst which was the cruel and barbarous sport of Badger-drawing, which, not many years byegone, was indulged in by all classes of society. Another cause is the fact that the officers and non-commissioned officers of some of our Highland regiments require the skin of the Badger to make their sporrans; but now this cannot be supplied from native specimens. Indeed, the "Brock" has now become so rare that the fact of one being killed or seen is heralded in the public prints.

During the past forty years a goodly number of Badgers have passed through my hands, and never in a single instance have I found anything in their stomachs in the shape of

"game," although most keepers maintain that they are very destructive to such. Frequently the stomach has been found to contain large numbers of young wasps, bees, and vegetable matter.

Within the confines of "Dee" the Badger is now very rare indeed; and in many places where, thirty to forty years ago, it was fairly abundant, it is now completely extirpated. In the *O. S. A.* it is only mentioned from five parishes, viz., Drumblade, Birse, Glenmuick-Tullich-Glengairn, Crathie-Braemar, and Old Deer; but, as in the case of the Polecat, the name only is given. In the *N. S. A.* it is mentioned for five parishes in Aberdeenshire, viz., Strathdon, Chapel of Garioch, Longside, Drumoak, and Leochel-Cushnie, but without particulars.

In Robertson's *General View of the Agriculture of Kincardineshire* (1807), chap. 15, p. 395, under the heading "Wild Animals," he speaks of the Badger as "a native and a very harmless animal."

In Smith's *New History of Aberdeenshire* it is mentioned as "occurring in the parishes of Chapel of Garioch, Glenmuick, Tullich, and Glengairn." One was killed by Mr. Duncan, keeper, Brucklay Castle, in the Den of Glasslaw, in 1860. (Horn's *Mammalia of Buchan.*) Ten Badgers were trapped in Glen Tanner between 1870 and 1880. (Harvie-Brown's "Rarer Animals of Scotland," *Zoologist*, 1882.)

Prior to 1874, Badgers were to be seen, and frequently were killed, in the woods of Hazelhead, which lie about two miles west of Aberdeen. The last two got in that locality, of which the writer has knowledge, were drowned in a water-lade, in which they had taken refuge. They held out in the woods of Parkhill until 1870, in which year a young one was taken alive, but none has been seen there since. In the woods of Glenkindie, Strathdon, the Badger was killed out about fifty-three years ago, but reappeared in 1880, as I was informed by the proprietor, the late Mr. Leith, who gave strict orders that they should be preserved.

This animal was fairly abundant on the estate of Pitfour up to about 1864, and was last observed there in 1870. One was seen at Old Mar Lodge in 1875. One was killed on the estate of Philorth in 1877, and another at Castle Fraser in 1879. A specimen was killed at Wardhouse in 1880, which

was sent to me. One was taken by Mr. Thow, keeper, Crathes, in 1881. In 1885, one was got in the parish of Birse. In 1889, one was obtained in the neighbourhood of Aboyne, and another in 1891. One was killed in Glenmuick in 1890, which was forwarded to me. One was killed at Cragievar in 1892; and a young one was sent to me from Braemar in 1894. In the same year a Badger was seen lying dead upon the Murcar Links by Mr. James Fraser. A mature female was sent to the writer from Braemar, May 3rd, 1895, and another in 1897. One was killed on the Bin Hill, Huntly, in the autumn of 1898, as I am informed by Dr. Wilson, Huntly.

Sub-Order *PINNIPEDIA.*

Family PHOCIDÆ.

Genus PHOCA.

Phoca vitulina, *Linn.* Common Seal. "Selch."

In the *N. S. A. of Kincardineshire* (1843), p. 217, it is said: "In the recollection of persons not yet very old, Seals were numerous on the coast of Dunnottar. They were then to be seen in herds basking on the rocks or sporting in the bays; and the hunting of them in the caves was practised both for amusement and profit. Now they have nearly abandoned the caves to which they resorted as their breeding places, and only a solitary one is to be seen occasionally skulking for prey at the foot of the rocks."

Going back to 1804, we find Colonel Thornton, in his *Sporting Tour through the Northern Parts of England and Greater Part of the Highlands of Scotland,* while speaking of the East Coast of Scotland, saying: "In the month of November numbers of Seals are taken in the vast caverns that open into the sea and run some hundred yards under the ground. Their entrance is narrow, their inside lofty and spacious. The Seal hunters enter these in small boats with torches, which they light as soon as they land, and these, with loud shouts, alarm the animals, which they kill with clubs as they attempt to pass. This is a hazardous employment, for, should the wind blow hard from the sea, these adventurers are inevitably lost." From the foregoing we must infer that

Seals were then much more abundant than they are now; but nothing is said by the writer as to what the species was, or whether there were more than one.

In Horn's *Notes on the Mammalia of Buchan* (1882) it said that "several species of Seals have been found at different times on this coast." This does not help us much. In the *Black Book of Kincardineshire* (1879), p. 117, it is stated that "Seals are now becoming scarce, owing, apparently, to the bag nets which destroy them."

It seems strange, indeed, that for the sea-coast parishes of "Dee" there is no mention of Seals in the *O. S. A.*, except for that of Peterhead; and in it the animal is merely mentioned by name. In the *N. S. A.* it is recorded for the parish of Crimond; but, again, the exact species is not given. Further, in Arbuthnot's *Account of Peterhead* a list of fishes is given, which includes Whale, Porpoise, and Grampus! In such a medley one would expect the Seal to find a place, especially since there is no doubt that Seals were common along the coast at the time he wrote.

Although Seals have diminished much in numbers of late years, *P. vitulina* is every now and again met with, and several have passed through my hands. A small one, about 27 inches long, was cast on Aberdeen sands in December, 1893. Another, some three feet long, was taken at the entrance to Aberdeen Harbour about the same time; while a third, three feet three inches long, was seen within the "Locks" of Aberdeen Harbour, where it played about for some ten days; but at last it was noticed lying asleep on one of the buoys, and was cautiously approached by boat, and its skull smashed to pieces as it lay.

Phoca hispida, *Schreber*. Ringed Seal.

This pretty little animal has been twice obtained on the coast of Aberdeenshire—one killed at Collieston in August, 1897, and the other in Aberdeen Bay in 1901. Both were caught in salmon nets, and passed through my hands. When obtained, I was doubtful to what species they should be referred; but on showing the skulls to Professor D'Arcy Thomson, of Dundee, that gentleman at once pronounced them to be those of *P. hispida*. The skull and dentition of this species are so characteristic, and differ so widely from

other British species, that there can be no difficulty in identification.

This is the Seal so often seen by Greenland seal-fishers floating on drift-ice far out from land, and is known by them as the "Flaw Rat."

Phoca grœnlandica, *Müller.* Harp Seal.

A specimen of this species was sent to me from Cruden in August, 1897, and its skull is still in my possession. It is not quite full-grown, and is the first record, so far as I know, of the occurrence of the species within "Dee."

On March 7th, 1903, a female, six feet three inches long, was caught in the salmon nets at Stonehaven. It was brought to Aberdeen Fish Market, where I bought it; and on the 31st a male, six feet nine inches long, was caught by the same means at Don-mouth.

Genus HALICHÆRUS, *Nilsson.*

Halichærus gryphus, *Nils.* Grey Seal.

Although this species can be spoken of without hesitation as one that frequents the east coast of Scotland, it cannot as yet be claimed as a species frequenting "Dee." Still, the late Mr. James Smith, keeper of Dunnottar Castle, had a number of skins of Seals which he had killed among the rocks at Dunnottar and neighbourhood, and amongst these were some which I believe were *gryphus;* but from the skin alone it is difficult to speak definitely.

Order CETACEA.

Family BALÆNIDÆ.

Genus NEGAPTERA.

Megaptera longimana, *Rudolphi.* Hump-backed Whale.

A specimen of this huge animal was towed into Stonehaven Harbour in 1884. It was at first seen disporting itself about the mouth of the Tay, near Dundee, from which place some men went in pursuit of it; but although they "got fast" and stuck to it for several hours, it ultimately succeeded in

escaping them, and was afterwards found dead by some Stonehaven fishermen. Its skeleton is now in Dundee Museum.

Genus BALÆNOPTERA.

Balænoptera musculus. *Linn.* Great Fin Whale.

A specimen of this Whale got entangled in the salmon nets in Aberdeen Bay on 20th June, 1870. Another, measuring 64 feet long, was brought into Peterhead in June, 1871, and was dissected by Dr. Struthers, Professor of Anatomy at Aberdeen University. Parts of the skeleton now adorn the Anatomical Museum there. There is perhaps no museum in the Kingdom where the Cetacea are so fully represented as in that of Aberdeen University. This is due to the enlightened and unceasing labours of the gentleman above named, in which he was ably seconded by his assistant, Mr. Robert Gibb.

This is the commonest form of Cetacea on the east coast of Scotland, specimens, old and young, being not infrequently cast on the beach or found dead at sea. Two were brought into Aberdeen during 1893.

Balænoptera rostrata, *Fabricius.* Lesser Fin Whale.

A female, 14½ feet long, was stranded on Aberdeen Beach in July, 1870. It was dissected by Dr. Struthers, and its skeleton added to the Anatomical Museum of Aberdeen University.

Another, also a female, 14 feet long, was brought into Catterline, Kincardineshire, in 1882.

Genus HYPEROODON.

Hyperoodon bidens, *Müller.* Bottle-nosed Whale.

One was brought into Fraserburgh on August 17th, 1871, and parts of its skeleton were secured by Dr. Struthers.

Family DELPHINIDÆ.

Genus MONODON.

[Monodon monoceros, *Linn.* Narwhal.

"Last summer, I was informed by the Fishery or Coast Guard Officer at Pennan, a White Whale was seen disporting

itself in the Bay of Pennan, and that Col. Garden Campbell of Troup fired several shots at it. It disappeared however, and was seen about an hour afterwards by the salmon fishers at Aberdour, making in the direction of Fraserburgh. This is the only White Whale known to have been seen on the coast." So says Horn in his *Mammalia of Buchan* (1882). Two very different species have here been confounded, viz., the Narwhal and the White Whale; creatures so utterly unlike that it is difficult to understand how the mistake could have arisen. Neither has been recorded as having occurred on the Buchan coasts, unless the animal fired at by Col. Garden Campbell was a White Whale.]

Genus ORCA.

[Orca gladiator, *Bonnaterre.* The Killer.

Again we are informed by Horn that this animal is "very common on the coast during the herring fishing. Several have come ashore at Pennan Head of late years. One, measuring twelve feet in length, came ashore at Nethermill about twelve years ago, and one at Gamrie three years ago." Here, again, there has been a confusing of species. *Orca gladiator* has not been known to occur on the Buchan coast, much less is it common there. What has been mistaken for it was, no doubt, the Fox Shark, *Alopias vulpes.*]

Genus GLOBICEPHALUS.

Globicephalus melas, *Traill.* Pilot Whale.

A female of this species was found at Cove, Kincardineshire, in 1871. Its skeleton is now in the Anatomical Museum, Aberdeen University.

Genus PHOCÆNA.

Phocæna communis, *Lesson.* Porpoise. "Louper Dog."

Abundant. At times it is seen in great numbers rolling and tumbling about close to the shore.

Genus DELPHINUS.

Delphinus delphis, *Linn.* Common Dolphin.

This animal is of rare occurrence on the east coast of Scotland, and has not hitherto been recorded for "Dee." On 24th August, 1895, one, eight feet long, was caught in a herring net off Aberdeen, and brought into the Fish Market there, where I had the opportunity of examining it.

Genus LAGENORHYNCHUS.

Lagenorhynchus albirostris, *Gray.* White-beaked Dolphin.

In the proceedings of the "Royal Physical Society of Edinburgh," vol. x., p. 14, it is reported that "an adult female and a young male were taken together off Stonehaven, Kincardineshire, in July, 1888."

Order RUMINANTIA.

Family CEROIDÆ.

Genus CERVUS, *Linn.*

Cervus elaphus, *Linn.* Red Deer.

This, one of the oldest quadrupeds (for it dates back to the time of the Irish Elk, Hyæna, Rhinoceros, and Mammoth), is now the most important wild animal in Britain, and one to which large tracts of country are exclusively devoted.

Within "Dee," the chief strongholds of the Red Deer are in the upper parts of Deeside, viz., Glen Tanner, Glen Muick, Balmoral, Invercauld, and Mar Forests, where they are to be seen in large herds; and no finer sight can be wished for than to witness these nimble creatures bounding over some craggy steep when alarmed by the solitary wanderer.

A great change has taken place in these animals within the past forty years, although not greater than that which had been in progress before that date. I refer chiefly to the decrease in the size of the antlers of the Red Deer of to-day, as compared with those of former times. Nowadays the

horns of these animals are, in the majority of cases, short and small, whereas, prior to the time above stated, large well-formed "royal heads" were quite common. Even these, however, were small in comparison to the antlers of the same race that are now and again dug up in peat mosses. In the Peterhead Museum there is a series of deer's horns obtained from the peat mosses of Buchan and the river Ythan, that for length and thickness are, in the latter particular at least, double that which obtained forty years ago, and these again were of far greater bulk than those of to-day.

It is plain that the Red Deer of Britain has been on the down grade for many generations back, and long before there could have been any serious interference on the part of man. In support of this, we may quote from the *N. S. A. of Kincardineshire*, p. 155, the following: "In the deepest part of a small peat bog called the Hog's Hole, lying between the estate of Kair and the farm of Old-cake, the skeletons of two Red Deers were found a few years ago in cutting a deep ditch through it. The horns are of extraordinary size, and are now in the vestibule of Arbuthnot House. The extreme breadth between the horns of one is four feet, the length of the horns 3 feet 11 inches. The left horn has eight antlers, the longest of which measures 18 inches; and the right seven antlers, the longest of which measures 17 inches. The extreme breadth between the horns of the other is 3 feet 11 inches, the length of the longest horn 3 feet 6 inches. There are seven antlers on each horn, the longest of which measures 15 inches." It would appear that wherever such horns are found, they are much larger than those of the present day.

In Munro's *Prehistoric Scotland*, p. 108, in speaking of the Red Deer, he says: "I will only further remark that the horns disenterred from marl pits and the older turbaries, appear to indicate animals decidedly larger than those of the present day. At anyrate, nowhere throughout Europe could we find at the present time a Stag's head to match with two," one of which was "found in the Meadows, Edinburgh, and the other in a moss at Ashkirk, Roxburghshire." The Edinburgh one has 17 points, and the Ashkirk one 23 points. There are to be seen in Aberdeen Art Gallery a pair of Stag's horns which far surpass in size any of the

present day. Each horn has seven points. This fine head was found at Dee Village in April, 1901, while excavations were being made in blue clay, fifteen feet from the surface.

It is unquestionable, however, that in the immediate past man has played no insignificant part in the change that has taken place. This may be explained by the fact that many of our Deer forests are annually let to strangers, whose sole wish is to obtain the finest Stags, the perpetuation of good stock being to them a matter of little moment. The consequence of this is that the breed has to be maintained by immature animals. Another fact which may tend in the same direction is that Deer were enclosed within particular areas, which, in many instances, compelled them to subsist upon a poor or short supply of food, and this had a marked effect on the growth of their antlers. To this may be added overstocking and interbreeding.

In 1884 a number of Stags were brought from England to Mar Lodge, and placed in an enclosure "specially prepared for their reception, and where they were supplied with turnips and other wholesome provender." To these were assigned a number of females from the neighbouring forest, with the result that the male descendants of this stock maintained to the full the "fine heads" of their ancestors, so long as they were kept within the enclosure, but gradually deteriorated when turned into the forest.

It is, therefore, reasonable to assume that if Deer were allowed to roam at will as of yore, they would find food for themselves sufficient to sustain health and strength during winter; whereas, in many instances, numbers die of absolute want, and those that survive their winter and spring trials do not—cannot—produce the full formed body and fine heads of former days. It would thus seem that their diminution in size is, to a considerable extent, due to the short-sighted policy of man. Happily, the idea of confining Deer within particular areas is seen by most present-day proprietors to be fallacious. They are, therefore, now allowed to roam in greater freedom, and it is to be hoped that this will tend to improvement.

Our acquaintance with the Red Deer has been chiefly obtained in the forests of Deeside, but more particularly in the forest of Glen Tanner. By the kind permission of the

proprietor, the late Sir W. Cunliffe Brooks, we have visited that wild domain at all seasons. We have wandered on the mountain tops, and heard the familiar cry of the Snow Bunting, and watched the sun descend behind the mighty bens to the west; when the evening mists have circled round the mountain brow, and when the day shaded into night; when all was still, save that there came every now and again, echoing through the forest, the deep bellow of the rutting Stag, to be instantly answered from some distant point. There is something in this that is eerie, yet pleasant. To hear the deep-toned roar near at hand, and listen to its being echoed and re-echoed from glen to glen, decreasing in volume as it distances the point at which we stand, is calculated to make one think of the endless methods adopted by nature in her arrangements of the amours of her various creatures; and to ask why those Stags should be caused at such times to fight, often to the death, and by the end of the season to be reduced to mere skin and bone, with voices almost inaudible.

Cervus dama, *Linn.* Fallow Deer.

In Watt's *History of Kintore*, p. 130, is given the song of "The King and the Tinker," where the author says: "At the time of the incident referred to in the song the whole land between Kemnay and Kintore was covered with wood; and the King and his nobles had been out hunting, when the Royal party met with the mender of kettles, as mentioned in the song which follows:—

> 'We sing of King James of the Scottish throne,
> A pleasant young monarch as ever was known;
> The King was a-hunting his fair *Fallow Deer*,
> And dropt all his nobles—of them he got clear.'"

The allusion to the *Fallow Deer* is of great interest, for according to the above, it appears that they were running wild in the woods. Can such have been the case? Is this species indigenous to Britain, or was it ever known to be common in Scotland? Bell says (*British Quadrupeds*, p. 403): "Whether it may be considered indigenous to this country or whether introduced at some remote period, appears to be

a question which the lapse of time and the absence of sufficient historical testimony render difficult, if not impossible of solution." He believes "that it must have been originally transplanted from a more genial climate." Further on he says: "It is found indeed in a more severe climate than our own, but it is only the dark-brown variety, which is far more hardy than the usual one, and is well known to have been imported on account of this quality by James the First, from Norway." This would be James the First of England, we presume. If so, and supposing the writer of the song is correct in the identity of the species, it seems strange that King James should have sent to Norway for a more hardy variety than that already to be found in England, when such could have been obtained more easily from the wilds of Scotland, if the song is true. I am inclined, however, to doubt the existence of this Deer on Donside at the date referred to, and disposed to think that this is merely one of many tricks in "Small Poets' splay-foot Rhimes," where feet for their doggerel are of more importance to them than regard for truth.

Fallow Deer are still kept at Haddo House, the residence of Lord Aberdeen. There also used to be some in the Park at Pitfour, but these were turned loose many years ago, and some of the descendants are still found in the neighbouring woods.

In Dinnie's *History of Birse*, p. 118, in speaking of the estate of Finzean, it is said "during the time of the late Archibald Farquharson, the park was well stocked with deer," but what species of deer is not stated; probably it was the Fallow.

In the *N. S. A. of Kincardineshire*, p. 333, parish of Banchory-Ternan, is the following: "The *Cervus dama* or Fallow Deer, is now found wild in the neighbourhood of Blackhall, but it is understood to have been introduced by a late proprietor." This may have been the late Archibald Farquharson mentioned above.

A lively account of a great Highland gathering for the chase, in the reign of Queen Mary, is preserved in William Barclay's *Contra Monarchomachos*, pp. 80-81. He was a native of Aberdeenshire, and says: "I had a sight of a very extraordinary sport. In 1563 the Earl of Athol, a prince of

the blood royal, had with much trouble and vast expense provided a hunting match for the entertainment of our Most Illustrious and Most Gracious Queen. I was a young man then, and was present on that occasion. Two thousand Highlanders were employed to drive to the hunting ground all the deer from the woods and hills of Athol, Badenoch, Marr, Murray, and the countries about. As these Highlanders use a light dress, and are very swift of foot, they went up and down so nimbly that in less than two months time they brought together two thousand Red Deer, besides Roes and *Fallow Deer.*"

But although some have interpreted Barclay's saying, "*duo millia ceruorum cum damis and capreis,*" to include Fallow Deer, others think that *damis* may mean *dama,* an old Latin name for Roe Deer. This being so, little information is obtained from Barclay either for or against Fallow Deer being in the area in which this "Royal hunt" took place.

In an article in the *Ibis* for 1869, p. 358, Professor Boyd Dawkins holds that it was the "Roman Conquerors who naturalised the Fallow Deer in Britain," and in his *Cave Hunting,* p. 78, in referring to Fallow Deer, he says: "It was introduced into Britain B.C. *circa* 55."

Mr. Bateman, in his *Ten Years' Digging,* p. 298, says he "has found the remains of Fallow Deer in British Barrows."

Cervus capreolus, *Linn.* Roe Deer.

This elegant little animal is abundant over the whole extent of "Dee," wherever there are woods and plantations. A noticeable feature in this creature is that its horns are subject to much malformation. In cases where only one of them is affected, it is generally the left one, as may be seen in the illustration.

Order RODENTIA.

Family SCIURIDÆ.

Genus SCIURUS.

Sciurus vulgaris, *Linn.* Squirrel.

MacGillivray remarks: "It having been stated that the Squirrel occurs in Braemar, I not only looked for it, but

Photo.] MALFORMED ROE HORNS. [*Mr. Mearns.*

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made enquiries respecting it of persons qualified to give correct information. Mr. Cumming had neither seen nor heard of it, nor had any other individual of whom I asked."

In 1859 I made my first acquaintance with the Squirrel in the Valley of Cromar, Deeside. At that time it was very scarce; but during the two subsequent years it became much more abundant, since then it poured in and increased enormously, extending its range year by year, until now, 1903, there is no plantation over the whole extent of "Dee" in which the Squirrel may not be seen.

Dr. Alex. Cruickshank informed me that he saw Squirrels in the woods of Dunnottar in 1847. This was in answer to the question often asked, "Where did the Squirrels come from that made so sudden an appearance on Deeside?" Evidently they come from Dunnottar, say, to Glen Dye, thence their march was easy into Deeside; or they may have kept up the south side of the Dee until Glen Tanner was reached, and this is the more likely, seeing they were known about Cromar, Ballater, and Braemar before they were known further down the Dee about Banchory. Still the Squirrel was common about Beauly, north-west of Inverness, and in the woods on the Lovat estates in 1855, at which time I saw them daily.

MacGillivray's not having heard of the Squirrel at Braemar may be accounted for in this way. By the country people it was known by the name of Ferret, Futteret, and Fumart, and any enquiry regarding it under its proper name would not be understood.

Family MURIDÆ.

Genus MUS.

Mus minutus, *Pallas.* Harvest Mouse.

The late Mr. Stewart Burnett informed me that he found in the avenue at Kemnay House, in 1889, a specimen of the Harvest Mouse, the only one he had ever seen in Aberdeenshire. There is one in the Banff Museum, which is said to have been taken at Greenskares, Gardenstown (northern edge of "Dee").

MacGillivray, in his *History of British Quadrupeds*, p. 257,

1838, mentions having had one sent to him from Aberdeenshire. These are the only recorded instances known to me of this little animal's appearance within the confines of our district, except that in the list of the Mammalia for the parish of Banchory-Ternan, the name of the Harvest Mouse is found on p. 333 of the *N. S. A. of Kincardineshire.* As this list is manifestly incorrect in many other particulars, however, this statement requires confirmation.

Mus sylvaticus, *Linn.* Long-tailed Field Mouse. Wood Mouse.

Common in every locality over the whole district of "Dee."

Mus musculus, *Linn.* House Mouse.

Abundant everywhere.

Mus rattus, *Linn.* Black Rat. "Rottin."

"Not uncommon; in and about houses, even the most remote." (MacGillivray.) The late Mr. Stewart Burnett informed me that there was a colony of Black Rats at Cairnton of Kemnay in 1855, some of which he obtained. In a letter I received from the above-named gentleman, dated January 31st, 1891, he says: "I am now able to give you all information in my power as to the Black Rat from Journals of different dates. As far as my recollection goes (back to 1830), the rats at Kemnay House were then all black. I saw many about the out-houses and ash-pits, including one pied, and also saw them in the clutches of our cat who ate them eagerly, which is rather exceptional in the case of the Brown Rat. That the present Brown Rats were then common in Aberdeen, I knew about that time. A country servant who had never seen these brown ones, on going to my grandmother's in Old Town from Kemnay House, took to putting out crumbs as done at Kemnay then in behoof of the small birds in winter, and horrified her fellow-servants by shewing the crowd of 'bonnie brown beasties' she had assembled as crumb pensioners. In East Lothian, where I was for more than three years, I found Brown Rats common enough from 1845 to 1848, but the

existence of the Black Rat only traditional. On a visit to Kemnay in 1847, I found, near a cottage, a dead Black Rat which I examined and took description of in my Journal at that date.

"On June 26th, 1848, I find record in Journal of one seen running into the machinery of Cluny threshing mill, and on March 30th, 1849, it is recorded that they were running about the rafters of a thatched cow-house where I had some cows, whose backs they had nearly bared of their hair, doubtless to line their nests with for their young. About this time they were very much supplanted by the Brown Rat, but I often saw them about the rafters of these out-houses, which, it is to be noted, they frequented more than Brown Rats are used to do. This is illustrated by my next notice in my Journal of May 17th, 1849. I put it down as there written. 'To West Mains, Castle Fraser, barns (thatched) swarming with Black Rats, seen creeping along the rafters, very long tails, more so than Brown species; as much at home on horizontal or perpendicular timber as a Squirrel on trees; tails often protruding from crannies. Vermiform animal seen running among rafters with brush on tail; supposed Stoat but not certain (could it be small Ferret or Polecat?); found one rat killed by it. Mustilline animal then on floor when first seen, at which time it was eating back part of the head of a Black Rat, the body of which it was unwilling to quit; back of rat's skull bitten away. Mustilline animal (I at that time was not very clear as to the distinction of different species of the tribe), on running up the rafters, soon got hold of another Black Rat whom I heard squeaking most dismally

species must have become very scarce,
f one killed on Manar in 1868, but did
vas really a Black Water Rat.'"
len Tanner, in a letter dated March
been extinct for twenty years there."
casionally be seen in the neighbour-
(*Braemar, Its Topography and Natural*
nes M. Crombie, p. 72, 1861.)
gist for June, 1893, p. 19, on the "Old
Bristol," Charles Garnett says: "I
ago seeing a colony of them in a
eenshire." This is evidently a case

of mistaken identity; it no doubt was the Water Vole that had been seen.

Bellenden says: "Nae rattonis ar sene in this countre, and als sone as they ar brocht thair they de." Thus he speaks of "Buchan." No doubt the inhabitants of that district would be highly pleased if the rats were all to "de" there now.

Mus decumanus, *Pallas.* Brown Rat.

This destructive little animal is far too numerous everywhere, and seems able to defy every means employed to keep it under.

Family ARVICOLIDÆ.

Genus ARVICOLA, *Lacép.*

Arvicola amphibius, *Linn.* "Water Vole." "Water Rat."

Abundant in most of the streams throughout "Dee." It was long thought that two species of Water Rat existed—a black form and a brown; but both are now known to be identical, and the two varieties are found in about equal numbers over "Dee."

This species has been brought to me under the name of "Earth Hound," a mythical animal supposed by the rural population of Aberdeen and Banff shires to frequent graveyards, making its way through coffins and devouring the dead. Of course, no proof was ever forthcoming that these ravages had taken place, and how such ideas should arise it is impossible to explain.

Arvicola agrestis, *Flem.* "Short-tailed Field Mouse." "Meadow Mouse." "Field Vole."

Common in all suitable localities over the whole extent of "Dee."

Family LEPORIDÆ.

Genus LEPUS, *Ray.*

Lepus timidus, *Linn.* Common Hare. "Maukin." "Bawd." Brown Hare.

Of this animal there are no data by which we can come to any very accurate conclusion as to the numbers in former

days. In the *O. S. A.* are such expressions as "Hares," "plenty of Hares," "abound with Hares," "Common Hare," "Brown Hare," "Hares are very common;" and in the *N. S. A.* it is said Hares are "numerous and destructive." It is only when we refer to Robertson's *Agricultural Survey of Kincardineshire*, p. 395, that anything approaching a definite opinion as to the numbers is given. "Hares: These are incredibly numerous, abounding in many parts in dozens in every field. I am fully persuaded that there are many more Hares than Sheep in this country, only they have changed places. The great body of Sheep are sent to pick up a scanty subsistence on the barren hills; but the Hares, left to the freedom of their own will, prefer to live at their ease in the low and rich parts of the country. Without having seen it, one could hardly conceive the quantity of turnips that they destroy."

This species, although still common, has decreased very considerably within the past thirty years, but more particularly since the passing of the Act which gave farmers the right to shoot ground game upon their own land. Immediately on this concession being granted there was a rush to arms, and in the space of a few years the Hare was reduced in numbers by at least one-half.

No definite statement is made by British authors as to the number of times the Hare breeds during the season. Bell, in his *History of British Quadrupeds*, p. 338, says: "The Hare breeds when a year old, and the female, after thirty days' gestation, brings from two to five young." Pennant, in his *British Zoology*, vol. i., p. 126, says: "The Hare never pairs, but in the rutting season, which begins in February, the male pursues and discovers the female." I am not in a position to say how often the Hare brings forth young during the season; yet if the rutting season begins in February it must be held that broods are produced during spring, summer, and autumn, for young are to be found in females on to the month of October. On September 19th, 1895, four young were taken from a female which had been killed on the estate of Drum, and their size showed that they could not have been born for at least ten days. Again, on September 28th, 1895, three young were seen by me taken from a female, and these were even smaller than those noted on the 19th September; so

that it would have been October before they could have "seen the light." This then would indicate that the Hare is much more prolific than is generally supposed.

Lepus variabillis, *Pallas.* "Alpine Hare." "Mountain Hare." "White Hare." "Blue Hare."

This animal is common on all the high ranges within "Dee," from the interior of the district right down to the Hill of Mormond, near the most easterly point of Scotland.

While confining itself to the high grounds during summer, the White Hare is often compelled by the winter storms to seek shelter and food in the low grounds.

In summer, when in its dark dress, this Hare is often the only sign of life the wanderer may see on the mountain tops. In such situations, I have often startled it from its "form," when it would run for a few yards, and then sit bolt upright and gaze wonderingly at the intruder; bound off for a few yards more and again sit up; look around it for a little, and then "hirple" away at leisure. As an article of food, the White Hare cannot be compared with the Brown one; and, as to numbers, this "child of the mountain wild" seems to be stationary, for no change either of increase or decrease has been observable during the past forty years.

Lepus coniculus, *Linn.* Rabbit. "Coney." "Mappy." "Cunning."

The Rabbit is not mentioned in the *O. S. A.* as being in the counties of Aberdeen and Kincardine.

Skene Keith, in his *General View of the Agriculture of Aberdeenshire*, p. 506, 1811, remarks, "There are no Rabbits raised for sale and only a few for amusement—not a hundred in the whole county."

In the *N. S. A. of Aberdeenshire*, it is stated that the Rabbit appeared at Alford about 1833. At page 777, speaking of the parish of Glenmuick, Tullich, and Glengairn, the remark is made: "One species of animal, that of Rabbits, which formerly was never seen here except in warrens, has now overspread the country, and is more destructive to turnips and other vegetables than even Hares." Again at

p. 986 under Turriff parish, we are informed that there are "rabbits in very great abundance," and for the parishes of Lumphanan and Leochel-Cushnie, the Rabbit is mentioned as existing, but without further comment.

MacGillivray says: "There were no Rabbits in Braemar until very recently, and they have increased there as elsewhere in the country so as to be a nuisance. Besides eating a great quantity of herbage, they burrow in the corn-fields. In Glen Callater, great numbers live on a steep, rocky, and stony hill, bearing a profusion of heather, and there burrow among the stones. They are also extremely abundant on Craig Choinnach, and along the north side of the river towards Alan-a-cuaich. . . . . There probably is not now a parish in Aberdeenshire in which wild Rabbits are not plentiful."

"Rabbits, not very many years ago unknown in the locality, have now so increased and multiplied, in spite of traps and guns, as to become in some places a perfect nuisance to the farmer." (*Braemar, its Topography and Natural History*, p. 72, 1861.)

Perhaps no creature that has found its way into Scotland has caused more ill-will, loss of crops (to the extent in some cases of actual ruin), squandering of money in law suits and political wrangling, than the Rabbit. The number of thousands of pounds worth of human food that have been destroyed by this vermin, it is impossible to determine; but the sum must be a large one. Indeed, wherever this animal secures a footing, heavy financial loss is the inevitable result to the agriculturist and stock raiser; and the Scottish farmer, until within recent years, had to submit to whatever numbers of this pest his landlord chose to feed upon his crops; but this cannot now be done with impunity, consequently proprietors have taken to preserving Rabbits in warrens. Some of these have been fairly successful, while others have been utter failures. In many cases it has been found that if Rabbits are confined to particular tracts disease overtakes them. In some instances I have visited the warrens where disease existed, while from others I have had the dead animals sent to me for examination; and in most cases the ailment was the same, viz., some defect in the digestive action of the stomach and small intestine. The food seems

to pass on undigested, and diverging into the cæcal appendage, accumulates there, and swells out that organ to ten times its natural size, the ultimate result being death. From this cause alone, some warrens have been almost depleted, and the only chance of saving the remainder has been to remove them to fresh ground where abundance of good food could be obtained.

Notwithstanding the large numbers of this animal in Scotland, and the favourable opportunities thus afforded of studying their life history, it would seem that this is not yet properly understood. The immense fecundity of the Rabbit has long been known, but its fruitfulness seems to be far greater than most people imagine. My friend, Mr. John M'Bain, who was for many years head keeper to Lord Aberdeen, informed me that he had taken fourteen young from one Rabbit, and in other instances he has found two distinct litters within the same female, one lot being no larger than mice, while the others were ready for birth. This statement has been substantiated by many keepers with whom I have conversed, and I have seen the same myself.

In the *N. S. A. of Kincardineshire* (1843), parish of Fordoun, it is said: "Rabbits were introduced into the county about twenty years ago, and now cause more destruction to the crops than all other descriptions of game in the county. To extinguish them seems hopeless, and the calls for compensation by the tenantry for the injury caused by them are neither infrequent nor unjust."

Of the parish of Banchory-Ternan, *N. S. A.*, p. 333, we are told that "Rabbits are said to have been almost unknown till a few from a distance were placed on the islands of Dee about thirty years ago. They passed over the ice in winter, and have now become everywhere so numerous as to render their destruction necessary."

It would thus seem that the animal has been a source of loss and annoyance since its first appearance in this country, as it is proving itself to be in others.

Notwithstanding the many foregoing references to the recent introduction of the Rabbit into "Dee," it is evident that it has existed in some districts within our limits for a very long time; for in the Udny Charter Chest is a letter from "Schir Robert Egew, Chaiplan to My Lord Sinclair"

(A.D. 1511), in which he says: "Item thar wilbe of tendit woll this yeir of your schipe Fyve stane. It will gif ilk stane, vij schillings and that is ane gud price for Buchane woll considering the ter that is in it. Item the Mussilsyle and the Linkis ar kepit richt weill. Ther wilbe our mony *Cunningis* with twa yeie thai have riddillit all the erdis of the Linkis richt weille."

This letter is given in full in vol. iii, pp. 106-108, Aberdeen Spalding Club, 1857, and serves to show that Rabbits, *Cunnings*, as Sir Robert calls them, have existed in Aberdeenshire for a far greater period than is generally known. It is also evident that they have been in other parts of Scotland before the above date, for in the *Accounts of the Lord High Treasurer of Scotland*, vol. ii., p. 96 (A.D. 1500), there occurs the following: "Item, the Samyn day (VII. Feb.), to ane man be the Kingis command that brocht quyk cunnings fra Cumbra VI. sh.;" and a similar entry of "X. sh. on 23rd Feb. Account of Scottish Parlement, 1424. Item. it is ordanyt that na man haif mertrik skynnis out of the realme and gif he dois that he pay to the King 6d. for the custum of ilk skyne, and for Fulmarts skynnis, callyt fethoks 8/-. Item of 100 *Cunyng* skynnis 1/-. Item of ilk 10 Otter skynnis and Tode skynnis 6d. Item for ilk 10 of Hert and Hynd skynnis 1/-. Item of ilk Dais and Rais skynnis 4d."

Thus it will be seen that Rabbits were common in the fifteenth century, indeed before that time, for according to the *Exchequer Rolls*, vol. i., a duty of one shilling per hundred was charged on rabbit skins during the fourteenth century.

Class II.—BIRDS.

Order 1.—PASSERES.

Family TURDIDÆ.

Genus TURDUS, *Linn.*

Turdus viscivorus, *Linn.* Missel-Thrush. "Highland Pyot." "Storm Cock."

A common and interesting species. It is resident and finds suitable nesting accommodation in the numerous woods and plantations that exist over the greater part of the district, selecting for the purpose of nidification the forked branches of the larch or Scotch fir, often at no great distance from the ground, nor with much attempt at concealment. When the young have left the nest they become semi-gregarious, and are then seen in scattered flocks searching for food in the grass fields, from which they fly on the appearance of danger.

Along the valleys of Dee and Don I have often seen this species feeding on the lone hill-sides in company with the Ring-Ouzel, at which time its food consists of various wild berries. None of the wild fruits of our country seems to come amiss to the Missel-Thrush, as it feeds indiscriminately upon wild cherries, hawthorn, rowan, holly, juniper, and seeds of many kinds, to which are added worms and snails. Yet, notwithstanding this large bill of fare, when the storms of winter cover the greater part of the country, and frost holds a firm grip on those portions not snow-clad, the "Storm Cocks" betake themselves to the coast in hope of picking up something to keep life in them, at which time we have seen them along our eastern shores lying dead and dying in dozens.

No mention of this bird is made in the *O. S. A.*, in so far as the parishes within "Dee" are concerned; and it would seem that even at the time when MacGillivray's *History of British*

Birds appeared the Missel-Thrush was not numerous, for he says, in vol. ii., p. 121: "I have not met with it in the Hebrides, or even in the northern divisions of Scotland. In the middle division of that country it is very rare, although I have seen it there, even among the Grampians." In the *N. S. A. of Aberdeenshire* the Missel-Thrush is only mentioned three times, viz., for the parishes of Strathdon, Methlick, and Lumphanan, so that it would appear that the bird was rare or not well known; but when we come down to 1855, when MacGillivray's *Natural History of Deeside and Braemar* was published, he says, at page 400: "It occurs in all the lower tracts and wooded parts of valleys, and is not uncommon about Ballater and all the way up to Mar Lodge."

Turdus musicus, *Linn.* Song-Thrush. "Mavis." "Throstle."

Common and resident, but in autumn it makes considerable journeys from one part of the country to another, and in doing so it is often found to strike against lighthouses in its flight along the coast. In these migrations the Thrush frequently becomes exhausted, and takes refuge on any passing vessel; but if such is not near, it is drowned, and subsequently may be found cast upon the beach. This fine songster frequents woods and plantations, where, in low trees and bushes, it builds its nest and rears its young, and cheers the thoughtful with its charming song. It feeds on worms and slugs, seeds and berries, and gives the fruit-grower considerable trouble in preserving strawberries and wall-fruit from its depredations.

Turdus iliacus, *Linn.* Redwing.

This handsome bird visits "Dee" in considerable numbers in autumn, but it is not regular in its appearance; some seasons few are to be seen, while in others it is abundant. During its stay it feeds upon the various wild fruits it can find, while in open fields and meadows it makes careful search for worms, snails, slugs, and insects. As the winter approaches and the weather becomes more severe, it passes further to the south.

Turdus pilaris, *Linn.* Fieldfare. "Highland Pyot."

Unlike the Redwing, this is a more regular and more abundant autumnal visitor to "Dee," where it may be seen in flocks of thousands searching for food in the pasture lands.

[In the *Naturalist* for 1853, pp. 139 and 140, under the heading, "Occurrence of Rare Birds in Aberdeenshire," by James Taylor, he says: "Turdus pilaris (Fieldfare), Mr. C. Black showed me the nest of a pair that bred at Raeden in 1847." "Rare in the woods during summer; numerous flocks come in autumn and remain through the winter. Every year a few nests are found in the woods of Blackhall and Inchmarlo." (Adams.) "Fieldfare resident all summer in a particular wood in Aberdeenshire, as recorded by a friend, on the accuracy of whose observation I place strict reliance." So wrote Edward Blyth in *Charlesworth's Mag. of Nat. Hist.*, vol. i., p. 440, July 10th, 1837.]

Turdus merula, *Linn.* Blackbird. "Merle."

Abundant and resident, frequenting woods, plantations, and gardens. Its numbers are greatly increased in autumn by migrants from more northern lands, at which season many become exhausted in their flight and are drowned at sea. Many are then cast upon the beach along the coast of Aberdeenshire.

"Blackbirds . . . which used to come only in winter . . . remain now and build their nests." *(O. S. A.*, parish of Strichen, vol. vii., p. 419.)

Turdus torquatus, *Linn.* Ring-Ouzel. "Hill Merle."

This summer visitant is to be seen on every wild and lonely waste and on the hill-sides where whin, broom, birch, or juniper grow. Along the course of the Dee and Don, and in the glens through which their tributary streams rush wildly on, the Ring-Ouzel is to be seen perched upon some bush or jutting rock, anon uttering his pleasant cry, while near by the female may be sitting in her nest under the shelter of some mossy bank or tangled tuft of heather. After the period of nidification, old and young betake themselves to the strips of cultivated land, and there diligently search for

food. When the season of departure draws near, the birds congregate in small flocks, and are to be seen in gardens feeding on the late fruits, finally leaving about October.

In the *O. S. A.*, p. 419, under the parish of Strichen, is the following: "Blackbirds, Ring-Ouzel, and Dobchick, which used to come only in winter with great flocks of snow-birds and Fieldfares, remain now and build their nests; the snow-birds and Fieldfares leave the country in May." Was this coming of the Ring-Ouzel "only in winter" merely the bird returning from the hills to the coast in its autumnal migration?

Genus SAXICOLA, *Bechstein.*

Saxicola œnanthe, *Linn.* **Wheatear. "Stane Chackert." "White Rump."**

One of our most common and regular summer visitors; to be seen alike about cultivated fields, moorland pastures, and heath-clad hills, where it breeds freely, making its nest in stone or turf dykes and cairns of stones. Indeed, in and around old hill forts, where once rang the clash of arms and the loud rough voice of ancient warriors, the only sign of life now seen by the curious visitor or antiquary is the lively form of the "White Rump" jerking its tail, flitting from stone to stone, uttering the while its sharp "chick-chack."

Genus PRATINCOLA, *Koch.*

Pratincola rubetra, *Linn.* **Whinchat. "Fun Chackert." "Fun (Whin) Lintie."**

Common, and, to some extent, resident; but the numbers are considerably added to in spring. This bird is to be seen over the greater part of "Dee," chiefly on moors where broom and whin grow.

Pratincola rubicola, *Linn.* **Stone-Chat.**

Like the preceding, the Stone-Chat is to be seen on the furze-covered moors of "Dee," where a few remain all the year round; but it is not generally distributed, for in some localities which seem suitable it is not to be found. The district in which the Stone-Chat has been observed in

greatest abundance is the moor of Kinnellar. There, on the numerous ancient tumuli where whin and broom grow luxuriantly, this bird lives and rears its young.

A letter from the late Stewart Burnett, Esq., dated Balbithan House, May 13th, 1887, contains the following note: "I find, on consulting my records, that Stone-Chats in this neighbourhood have grown very scarce from about 1875. Before that time I knew of about a dozen localities in a radius around this of about twelve miles where one could always find pairs of these birds throughout spring and summer. There were several pairs in different parts of Thom's Forest, near Kintore, as also on the whin covert along the coast north of the mouth of Don. All these localities since 1882 have been visited at different times, and not a single individual seen in any of them. The last Stone-Chats I saw in these parts were a family, old and young, on August 12th, 1882. Late nests bear the dates of 1876, 1877." A few are still to be seen in the same locality.

Sub-Family *SYLVIINÆ.*

Genus RUTICILLA, *Behn.*

Ruticilla phœnicurus, *Linn.* Redstart.

A summer visitor that is distributed pretty generally all over "Dee." It is to be found breeding on ivy-clad walls along the east coast; in the gardens and grounds of land-owners; and right away through the pine forests of the interior. In July, 1893, I found them plentiful in the woods along the Dee valley above Castleton of Braemar. Their single call-note, which is somewhat like the cry of the Chaffinch, and is the same in male and female, was to be heard every here and there. Their movements, with the continual jerking of the tail and occasional flutter of the wings, as these little creatures perch upon a branch, uttering their cry, and darting to another twig, are peculiar and most interesting.

Ruticilla titys, *Scopoli.* Black Redstart.

The only record of this species for "Dee," so far as I am aware, is that of a male which flew into, and was caught

in, a house in Aberdeen on March 20th, 1900. The bird is now in my possession.

Genus SYLVIA, *Scopoli.*

Sylvia suecica, *Linn.* Red-spotted Blue-throat.

This species is represented by a single specimen that flew on board a fisherman's boat in company with a Redstart in Aberdeen Bay, 16th May, 1872, and was purchased by me in the flesh from the captor.

Sylvia rubecula, *Linn.* Redbreast. "Robin." "Robin-Redbreast."

Resident and abundant all over "Dee."

Sylvia cinerea, *Bechstein.* Whitethroat.

Plentiful in all suitable localities during summer throughout "Dee."

Sylvia curruca, *Linn.* Lesser Whitethroat.

"One reported by George Sim to have been shot by him at Gourdas, Fyvie, November 4th, 1880." (*Scottish Naturalist*, vol. i., p. 13.)

Sylvia atricapilla, *Linn.* Blackcap.

"In the neighbourhood of Banchory and about Ballater. On the third Septr., 1850, I found in a bush of *Prunus padus* by Braichley Burn, a nest with four eggs which had long been deserted." (MacGillivray.) A Blackcap was found at Don-mouth by the late John Proctor in 1866. That gentleman presented it to the writer, in whose possession it still is. "One seen near Fyvie Castle, 27th April, 1872; one at Mill of Tifty, October, 1872." (MS. list, George Sim, Fyvie.) "Once seen by me near Scultie Farm, and has been found near Turriff." (S. Burnett's MS.)

In the *N. S. A.*, p. 537, list of birds for the parish of

Strathdon, is mentioned: "The Black-cap *(Sylvia atricapilla)* very rare." "A pair seen near Bucksburn House, sitting on a low dyke, August 1st, 1875." (Mr. A. M'Pherson's MS.)

Sylvia hortensis, *Bechstein.* Garden Warbler.

A specimen of this species, so rare in the north, was shot by W. Davidson, keeper, within the grounds of Seaton House, in 1865, and brought by him to me upon the same day. The bird had frequented the bushes along the edge of the Don and near Davidson's house for several days before he shot it, its song having attracted his notice. The specimen is still in my possession. "Bred at Drum, and seen at Cherryvale, Aberdeen, by the late Dr. Dickie." (J. Taylor's MS.) Mr. Waters, naturalist, Aboyne, informed me that he "stood within four yards of a Garden Warbler beside Aboyne Castle."

This species can only be looked upon as an accidental and irregular visitor to "Dee." It is said by Selby to "occur throughout the greater part of Scotland." Subsequent observation has not substantiated this assertion.

Genus REGULUS, *Cuvier.*

Regulus cristatus, *Koch.* Goldcrest.

Resident; breeding freely in most woods throughout "Dee." Although this beautiful little bird is able to withstand the winter blasts of our rather exposed eastern coast, yet, in its autumnal migration from more northern regions, the mortality in its ranks is very great indeed. Along the coast of "Dee," Goldcrests are in some seasons seen flying in almost continuous flight for many hours together. On such occasions, when the wind blows strongly from the north-east, many are driven from their course and are often found in the streets and by-lanes of Aberdeen in numbers. At other times, when the wind is adverse, they are compelled to rest on passing vessels and open boats, on which they alight often never to rise again. They also frequently fly against lighthouses, and are killed.

Genus PHYLLOSCOPUS, *Boie.*

[Phylloscopus rufa, *Bechstein.* Chiff Chaff.

"Nearly allied to the last two genera (Whitethroat and Willow Wren), but less common. Though he has not got a dead specimen of it for some years past, Dr. Adams cannot doubt of its being found in the district." (Adams's *Birds of Banchory-Ternan*, p. 18.) "Mr. Brown states that it occurs along the Dee in his neighbourhood (Abergeldie and Micras), but is very rare. I saw one individual at Corrymulzie." (MacGillivray.) "Mr. Angus states that on the 8th of May, 1865, he received a Chiff Chaff, very much destroyed by shot, from Birse, Deeside, and that in May of the year following, he observed this species near Aboyne Castle. He noticed it again in June, 1867, at Wardhouse." (Gray's *Birds*, p. 98.)

All things considered, a considerable amount of more direct light requires to be thrown upon this species. Corroboratory records are necessary before it can be included, without doubt, among the birds that frequent "Dee."]

Phylloscopus trochilus, *Linn.* Willow Warbler. Willow Wren. "Muffite." "Birrity."

One of the most common summer visitors to be seen wherever plantations or natural thickets exist. Its nest is usually placed upon the ground, and it is often found that there existed a run of two or three feet under the grass and foggage before the nest is reached. Whether this run is formed by the bird or the disused tunnelling of a mouse appropriated, it would be difficult to determine.

Phylloscopus sibilatrix, *Bechstein.* Wood Warbler.

["Mr. Angus informs me that in Aberdeenshire it is so rare that he has never seen it in any local collection. He has, however, procured several specimens himself in that county: one at Fyvie Castle in 1862, where he took the nest and eggs, and a pair which he shot on the 19th May, 1866, in the pleasure-grounds at Warthill (Wartle). He has also observed it at Fetteresso, in Glentana Forest, in the Den of Leggert

at Banchory-Ternan (we presume the Den of Leggert in Banchory-Devenick is meant), and at Parkhouse." (Gray's *Birds*, p. 97).]

"Of rare occurrence in any part of the county; but I have several times met with it, or it may be a regular, though rare, visitant. I once found a disturbed nest with eggs in July." (S. Burnett's MS.) "Two specimens of this bird were seen here, and one of them shot, in the beginning of May." (George Sim, Fyvie, 1872, *Scottish Naturalist*, p. 226.)

Genus ACROCEPHALUS, *Naum.*

Acrocephalus phragmitis, *Bechstein.* Sedge Warbler.

MacGillivray says: "The Sedge Warbler is nowhere common in Scotland, although in the southern and middle divisions it is here and there to be met with." *(British Birds*, vol. ii., p. 392.) He makes no mention of it in his *Natural History of Deeside and Braemar.*

Of late years this species has become quite plentiful throughout "Dee," and its fine song may be heard in the calm summer evenings and far into the night. Indeed, many reports have reached me that the Nightingale has been heard in various parts of Aberdeenshire; but on investigation it has always been found that the "Sedge Bird" had been mistaken for "Sweet Philomel." I have found the nest of the Sedge Warbler among the reeds along the banks of the river Ythan, where it flows through the Braes of Gight, as also in other localities.

Genus LOCUSTELLA, *Kaup.*

Locustella nævia, *Boddaert.* Grasshopper Warbler.

"I never but once met with this species. It occurred in a cover of small stunted Scots-firs, rank heath, and whins mixed, in Thom's Forest, near Kintore. I got the most transient glimpse of the bird while it was alive; but my attention was directed to it by its strange call—like that of a Shrew Mouse, but much louder. As it was killed with No. 6 shot, it was too much battered to be of any use as a specimen,

but it exactly answered to the description in Mr. MacGillivray's Manual, as also to a drawing I had of Sibilatrix locustella." (S. Burnett, *Scottish Naturalist*, 1871, p. 84.)

"I have twice met with this species in the end of May and June; but it must be of extreme rarity in this district, as its most remarkable note would always indicate its presence." (S. Burnett's MS.)

Sub-Family *ACCENTORINÆ.*

Genus ACCENTOR, *Bechstein.*

Accentor modularis, *Linn.* **Hedge-Sparrow. "Dannock." "Dannack."**

Resident and common throughout the whole district. Nowhere in my wanderings, except on high mountain ranges, have I failed to see the Hedge-Sparrow common, alike in scrubby waste land and about garden and field hedgerows.

Family CINCLIDÆ.

Genus CINCLUS, *Bechstein.*

Cinclus aquaticus, *Bechstein.* **Dipper. "Water Crow." "Ess-Cock."**

This pretty and much persecuted bird is common on the banks of most of the streams throughout "Dee," especially on some of the unfrequented reaches of the Don, where they may be in numbers and where their movements may be watched for hours together. From such observations, and from the examination of the contents of the stomachs of a very large number of Dippers, it may be asserted that the charge brought against these inoffensive creatures, namely, that of eating the spawn of fish, is quite unfounded. Indeed, it may with perfect confidence be said that, but for the labours of the Dipper, the fishes of our streams would be less abundant than they are; for, unquestionably, its food consists to no inconsiderable extent of insects that prey upon the ova and young both of salmon and trout.

Family PANURIDÆ.

Genus PANURUS, *Koch.*

Panurus biarmicus, *Linn.* Bearded Titmouse.

[It is recorded in the *Zoologist*, 3rd Ser., p. 1255, that a bearded Tit was shot in Aberdeenshire by T. Edward.]

An individual of this species was killed in the garden at Rothienorman by the gamekeeper there in 1865, and was given to Dr. Davidson of Wartle, who informs me by letter that he gave it to a gentleman "some time ago."

Family PARIDÆ.

Genus ACREDULA, *Koch.*

Acredula caudata, *Linn.* Long-tailed Titmouse.

Resident; not generally abundant, though it breeds. This species is rather erratic in its habits. In some seasons it is fairly abundant; while in others it may be almost entirely absent from the same locality.

Genus PARUS, *Linn.*

Parus major, *Linn.* Great Titmouse.

Common throughout "Dee," often frequenting gardens, where it is credited with doing much mischief to fruit trees. That it does commit considerable havoc to the opening buds cannot be denied; but we suspect it is to reach a foe of the gardener's, which he himself is powerless to resist, and which, but for the bird, might destroy the whole crop.

Parus britannicus, *Sharp and Dresser.* Coal Titmouse.

Abundant; and breeds throughout the district, producing several families in the season. A question regarding the habit of this bird has for long presented itself to my mind, viz., Does the Coal Tit cause its first young of the season to hatch its second clutch of eggs? The question arose in this way. I found in a bank a nest that contained four well-grown young which the parent was busily feeding, and under the young ones were four newly-laid eggs. To make sure that this

was so, the eggs were taken and blown, and they were quite fresh. This would point to their being eggs for a second brood. Can such be really the case?

Parus palustris, *Linn.* Marsh Titmouse.

It is affirmed by Mr. A. G. More, in his paper in the *Ibis*, that this species breeds in Aberdeenshire. Mr. Murray, Town and County Bank, Newburgh, informed me that on 22nd October, 1871, he saw in his garden a specimen of this bird. It was so close to him that shooting was out of the question, but being so near, he had every opportunity of satisfying himself of the bird's identity. Again, on 17th February, 1896, I received a letter from Mr. George Sim, Fyvie, in which he says: "I am glad to inform you that I had the pleasure of seeing the Marsh Tit on the 2nd of February. . . . . I only saw one bird, and it kept feeding by itself, although a great number of other Tits were busy feeding round about."

Parus cæruleus, *Linn.* Blue Titmouse. "Blue Bonnet."

This pretty and sprightly little bird is abundant, frequenting woods, plantations, orchards, and gardens, selecting for its nesting-place any hole it may find in tree or bush. Like its larger relative, *P. major*, the Blue Bonnet is looked upon by gardeners as one of their worst enemies, but as in the case of the former, the charge is unfounded, or at least exaggerated.

Family TROGLODYTIDÆ.

Genus TROGLODYTES, *Vieillot.*

Troglodytes parvulus, *Koch.* Common Wren. "Jenny Wren."

This familiar little bird is to be seen almost everywhere—amongst the brake in the sombre solitary glen, among the whins on the open trackless moor, in the hedges around the cottage garden, and away far up the hill-sides among the loose stones that lie scattered there. "Jenny Wren" is to be seen when few other forms of bird-life are visible.

Family MOTACILLIDÆ.

Genus MOTACILLA, *Linn.*

Motacilla lugubris, *Temm.* **Pied Wagtail.**
"Watery Wagtail."

Abundant; resident; and breeds throughout "Dee."

Motacilla melanope, *Pallas.* **Grey Wagtail.**
"Yellow-seed Lady."

This species is common, and is to be found along the banks of our principal streams near which it breeds. A few are to be seen during winter, but by far the greater numbers leave us in autumn. By many people this species is called the "Yellow Wagtail," which frequently causes confusion.

Motacilla raii, *Bonaparte.* **Yellow Wagtail.**

"This species properly so-called—*Budytes rayi*—I have not met with." (MacGillivray.) "They breed plentifully among the hillocks which stretch along the line of coast between the Don and Newburgh; then again, from Peterhead to Fraserburgh." (Smiles's *Life of a Scottish Naturalist*, p. 400.)

It is pleasant to be able to corroborate the latter statements. The birds have been found by Mr. Wm. M'Boyle, of Peterhead, from whom I received specimens killed by him on the links of St. Fergus. This species has also been seen at Forvie Links, and a nest containing five eggs at Mennie, in 1893, by Mr. A. Kelly, Aberdeen. Again, in 1895, the same gentleman saw a pair by the side of a small burn that crosses the links about five miles north of Aberdeen. This evidence covers the whole ground mentioned by Edward.

Genus ANTHUS, *Bech.*

Anthus pratensis, *Linn.* **Meadow-Pipit.**

Resident and breeds throughout the district.

Anthus trivialis, *Linn.* **Tree-Pipit.**

Local; fairly abundant in some places, and altogether absent from others; tolerably common about the woods of

Fintray, which lie along the banks of the Don, where Mr. S. Burnett obtained the nest. One was shot by W. H. Ritchie, Esq., at Dunnottar House, May 12th, 1899, who forwarded it to me.

Anthus obscurus, *Latham.* **Rock-Pipit.**

Resident along the rocky parts of the coast, forming its nest under ledges of rock or tufts of grass, and finding its food among the "wrack" cast up by the sea, and on such insects as frequent the cliffs and herbage that grow thereon.

Family ORIOLIDÆ.

Genus ORIOLUS, *Linn.*

Oriolus galbula, *Linn.* **Golden Oriole.**

"One was shot at Aberdeen by A. Mitchell in 1886." (Mr. J. Taylor's MS.) Another was shot at Glack, Aberdeenshire, and preserved by Mr. Reid, Pitcaple.

Family LANIIDÆ.

Genus LANIUS, *Linn.*

Lanius excubitor, *Linn.* **Great Grey Shrike. "Butcher Bird."**

This is a frequent though irregular visitor to "Dee." In 1865, one was shot at Ballogie; on March 17th, 1866, another was shot at Parkhill; and a third at Corse, Lumphanan, February 7th, 1889. A male was caught on Old Aberdeen Links by a man who was snaring larks and linnets, and it was brought alive to me. Its stomach contained the remains of a bird. On 2nd May following, a male flew on board an Aberdeen line-boat while at sea. On February 8th, 1890, a Great Grey Shrike was shot on the estate of Aden and sent to me. It was a male, and had the remains of a mouse in its stomach. On February 20th, of the same year, a male was shot on the estate of Newton by Mr. Gordon, the proprietor. It had the remains of a bird in its stomach. On the same day I also received a female whose stomach

likewise contained parts of a bird. On March 12th, 1890, a female was shot at Aden which contained the remains of a mouse.

On May 2nd, 1890, a male was caught at sea off Aberdeen. One lived in the shrubbery around Skene House from 12th December, 1889, till the 28th March following. It was seen daily by the proprietor, who was my informant, and also by Miss D. Hamilton, who is a close and accurate observer.

Adams says: "This bold and handsome bird was shot in 1844 near the house of Durris. In the following year one was killed near Banchory, and another this year (1859). One was killed at Inchmarlo." "Very rare; I have seen only two, one in the winter of 1837, and another in the winter of 1859." (J. Wilson's MS.) A pair had built a nest in a spruce in the garden at Fyvie Castle. The nest contained an egg, and the female was found lying dead at the foot of the tree.

One frequented the same garden from November, 1889, to February, 1890, and was often seen capturing Tits and Gold Crests." (Serle, *Avi-fauna of Buchan*, p. 10.)

Lanius collurio, *Linn.* Red-backed Shrike.

This species is included in the list of birds for the parish of Peterhead as it appears in the *N. S. A.*, in which it is said that all the species mentioned had been "found in the vicinity during the last ten years." This list was prepared by the late Adam Arbuthnot. This would show that the Red-backed Shrike had been got at Peterhead between 1833 and 1843. Horn, in his *Birds of Buchan*, says this specimen, a male, "is still in the Museum at Peterhead." Gray, in his *Birds of the West of Scotland*, says that he had seen this specimen, and states that it is a male, and that it was obtained "about the year 1833." Now, that there is a specimen of this species in the Peterhead Museum is quite true, but there is not a particle of evidence or information regarding when or where it was obtained, and besides *it is unquestionably a female.*

In the month of May, 1891, a male and female of this species were shot by Mr. West at Aden Cottage, Peterhead, and were preserved by Mr. W. M'Boyle of that town. In the

following July, along with Mr. M'Boyle, I visited Mr. West and saw the birds.

In 1892, Mr. W. Reid, F.E.S., the well-known lepidopterist of Pitcaple, informed me that he had observed this bird for six or seven years, and always about the same place, viz., the south-east shoulder of Bennachie, and always about the nesting season. He believed it to be a Shrike, and he ultimately found its nest. His description of the bird was exactly that of the Red-backed Shrike, and the egg, which he showed, was unquestionably one of that species.

Miss Gordon informed me that she and others observed a pair of birds "among the shrubbery and in the garden at Midmar Castle. They were about the size of Starlings, but had longer tails and were chestnut on the back. They killed large numbers of her hive bees, and also took humble bees, which they transfixed upon thorns." Many of the dead bees, which were killed in 1895 and 1896, I received from Miss Gordon. Evidently these birds were a pair of Red-backed Shrikes.

[Lanius excubitorides, *Swainson and Richardson.* American Grey Shrike.

In the *Naturalist*, vol. ii., p. 239 (1852), it is reported by John Longmuir, jun., that a specimen of the "Great North American Shrike *(Lanius borealis)* was shot (the only one, I believe, as yet obtained in Britain) by Mr. Thomas M'Kenzie, in the month of April, 1848." Whether this Aberdeenshire specimen was a genuine American Shrike, it is now impossible to say. There is no record as to what became of the bird.]

Family AMPELIDÆ.

Genus AMPELIS, *Linn.*

Ampelis garrulus, *Linn.* Waxwing. "Bohemian Waxwing." "Bohemian Chatterer."

Under the name of Carolina Chatterer, this bird is recorded in the *O. S. A.* as having occurred in the parish of Strichen; and in vol. v., p. 279, of the same publication, under the name of Bohemian Chatterer, it is mentioned as

having "made its appearance in the parish of Slains in the year 1788."

"Occurs with us almost every winter. In 1850 as many as ten were got." (J. Taylor, in *Naturalist*, vol. iii., p. 140.) "This interesting visitor has been repeatedly seen in the district, generally in spring. One was shot in the woods of Blackhall in April, 1851." (Adams.) "One was shot at Kinmundy, near Peterhead, April, 1851." (W. Ferguson, in the *Naturalist*, vol. i., p. 94.) "Mr. Stewart states that one has been once shot at Glen Gairn." (MacGillivray.)

The following specimens have all been seen by me. One was killed in the parish of Auchindoir, and another in the parish of Birse in 1866; and on December 4th, of the same year, one was killed near Aberdeen. About the same date, one was sent for preservation to the late A. Mitchell, Castle Street, Aberdeen, and he also at the same period shot one in a nursery in town. One was killed at the Old Moss of Gight, October, 1871, and another at Woodhead, November 27th. Two were found dead in the Den of Rothie, December, 1872. One was killed at Meldrum House, January 12th, 1882. In 1893 one was obtained on January 2nd; another, on the 7th, flew into a house in the parish of Tough. A fine female, whose stomach was full of juniper berries, was killed near Rhynie; and another was killed at Arbuthnot House, Kincardineshire.

In 1897 one was killed at Methlick on November 4th; and, on December 4th, two others at Parkstile, Strathdon, and five more at Rhynie.

Family MUSCICAPIDÆ.

Genus MUSCICAPA, *Linn.*

Muscicapa grisola, *Linn.* Spotted Flycatcher.

This is one of our most common visitors, and is to be found breeding in all suitable localities.

Muscicapa atricapilla, *Linn.* Pied Flycatcher.

"A bird of this species was shot in the woods of Hazelhead, near Aberdeen, by Mr. Robert Dickie, about the month of July, 1845." (*Naturalist*, vol. ii., p. 239.) "Two were killed at

Pitfour, 1849." (Horn's *Birds of Buchan*, p. 238.) The Rev. J. Smith, in the *Zoologist*, p. 2651, January, 1850, reports that one was shot on the edge of a plantation near Brucklay Castle, in May, 1849, and says it had not been previously known in Scotland.

Three were shot on Aberdeen Links by the late A. Mitchell. One was shot at Manar, Donside, and two at Peterhead on May 14th, 1872, all of which were sent to me. On May 14th, 1890, I received a male from Mr. Muirhead, Haddo House. Its stomach was full of small beetles (weevils). This bird was very fat, and its generative organs very large. It was altogether in its full breeding state. The nest, however, of this species has not been found in "Dee." Two of these birds were seen at Inverugie by Mr. Crighton in May, 1890.

This species is included in a list of birds in the *N. S. A.* for the parish of Peterhead. Referring to this list in his *Birds of the West of Scotland*, p. 70, Gray states: "I may add the occurrence of a pair—male and female—near Peterhead previous to 1835, in which year Mr. Arbuthnot, the founder of the Peterhead Museum, where the specimens are still preserved, furnished a list of local birds for publication by the compiler of the 'Statistical Account of the Parish'; " but how he arrives at the statement "previous to 1835" he does not inform us. One was killed at Pitfour, and another at Dunnottar on April 13th, 1898, and both forwarded to me. On May 19th, 1899, one was shot by James Gerrard, Greenmire, Oldmeldrum, who also sent it to the writer; while various other specimens have been reported to him from several parts of Aberdeenshire.

Section OSCINES LATIROSTRES.

Family HIRUNDINIDÆ.

Genus HIRUNDO, *Linn.*

Hirundo rustica, *Linn.* Swallow.

One of our most regular summer visitors, arriving about the end of April, if the summer is fine, but generally in the beginning of May, and dispersing all over the country.

Shortly after it commences the work of nest-building. These structures are often placed within cow-houses and barns.

Hirundo urbica, *Linn.* House Martin.

This species, like the preceding, is a regular and constant visitor to "Dee," but within the memory of the present writer, it has changed its habits very much, in so far at least as the building of its nest is concerned. Thirty to forty years ago the Martin could be seen building its nest in the villages and outlying hamlets throughout the country; but now it has betaken itself in great measure to the sea-coast. There it is to be seen entering the dark, damp caverns, in the roofs of which its nest is built. There is one cavern on the Kincardineshire coast, the entrance to which is little more than sufficient to admit a man, although when once within the opening there is a wide and roomy dark gallery. Into this sunless retreat the Martin flies without hesitation, builds its nest in the crevices of the stony roof, and rears its young ones in almost total darkness.

Mr. John Wilson, of Methlick, writes in his MS. Journal for 1860, that "a swallow's nest was accidently knocked down from under the eaves of a house in our village and the young ones cast to the ground. They were collected and placed in a boy's cap, and the cap was nailed up where the nest had been; shortly after the parent birds returned, but being suspicious of the appearance of the nest, they flew away. Returning again with a number of their fellows, they took counsel over the matter, when it appeared to be found that, although the nest had been tampered with, the one substituted would do, and there seemed to be no danger. Those brought for consultation thereupon took their departure, and the parents commenced to feed their young as if nothing had happened. This brood was reared in safety. In 1861, and again in 1862, a brood was reared within the bonnet, after which it fell to the ground through decay."

Hirundo riparia, *Linn.* Sand Martin.

Abundant, and breeds in every suitable locality; the superficial drift along the sea margin, the river's bank, the brawling burn, or noisy railway cutting, all are alike suited to

its wants; and in such situations it excavates holes fit for its purpose, and breeds in comparative peace, its only enemy being "enlightened man!"

Section OSCINES CURVIROSTRES.

Family CERTHIIDÆ.

Genus CERTHIS, *Linn.*

Certhia familiaris, *Linn.* Tree Creeper.

Common and resident; occurring in all the plantations and forests throughout "Dee." Owing to the solitary habits of this species, it is generally supposed that it is not abundant; but those familiar with the bird and who frequent its haunts can see that its numbers are far from being inconsiderable, and that this useful little bird is ever busy in its labour of hunting for food, which consists of larvæ, flies, and beetles that lurk in the bark and young shoots of trees.

Section OSCINES CONIROSTRES.

Family FRINGILLIDÆ.

Sub-Family *FRINGILLINÆ.*

Genus CARDUELIS, *Brisson.*

Carduelis elegans, *Stephen.* Goldfinch. "Goldie."

This elegant bird has for many years back been on the march towards extinction. In the *O. S. A.* its name appears in the list of birds for the parishes of Birse and Strichen. In the latter it is said: "Of late years the Goldfinches have quite disappeared." "Of singing birds, the Thrush, the Blackbird, and the *Goldfinch* are more numerous than I have anywhere else seen." (Robertson, *Agricultural Survey of Kincardineshire*, p. 397.) In the *N. S. A.* the Goldfinch is mentioned as still to be seen in the parishes of Chapel of Garioch, Birse, and Drumoak, where it is said "it must be regarded as uncommon."

"Seldom seen in summer, when it is no doubt spread over

the woods and employed in rearing its young. In winter and spring, not uncommon." (Adams's *Birds of Banchory-Ternan*, p. 20.) "Mr. Brown has found it but rarely in Crathie." (MacGillivray.) One was seen by Mr. A. M'Pherson in the Grove at Greenburn. (MS. Journal.) "Not so common as it used to be, still a few are to be seen occasionally." (Horn, *Birds of Buchan*, 1880, p. 239.) Mr. Mutch, gamekeeper, Pitfour, saw the Goldfinch and found its nest at Breda, near Alford, in 1884, and again in 1885. Since going to Pitfour, he informs me that he saw two Goldfinches within a few feet of him in the last week of December, 1897; and that, for the past three or four years, he has seen a few each spring, but has not known them to breed. Mr. Mutch has a thorough knowledge of our woodland songsters, and can detect the call of each with accuracy, as I have had opportunities of observing. Mr. Ramsay, banker, Peterhead, informed me that a pair of Goldfinches nested and brought out their young near Peterhead, in 1885, and again in 1887. In 1889, a pair built their nest in a tree in the garden at Ravenscraig, near Peterhead. The farmer, Mr. Brand, very kindly showed me where the nest was situated, portions of which remained at the time. A pair bred at Inverugie in 1896. The nest was in a tree near "The Cottage." Old and young were frequently seen, as I am informed, by Mr. Brand, jun. Mr. West saw five Goldfinches in his garden, near Peterhead, in August, 1890. In October, 1889, I found one dead upon the sands, north of Don-mouth. Two nested near Rubislaw Quarries, Aberdeen, in 1894, but were both taken by bird-catchers.

As has been said, this fine bird is on the verge of extinction within "Dee." Why this should be so is difficult to explain; some hold that owing to the improvements that have taken place in agriculture, the food of this species is not now permitted to grow, hence the bird has to go elsewhere. Anyone knowing "Dee" and the "improvements" referred to will not readily admit that thistles have been improved off the face of the land, for even within the farm enclosures, and among the farmers' corn, thousands of "thistle taps" can yet be seen flourishing year after year, producing their seeds, but not a "Goldie" to fatten upon them. This, however, cannot explain the matter, for although

thistle seeds are still plentiful, this is only for a short period yearly; other plants, upon whose seeds the Goldfinch fed, may have been extirpated, so that the bird may have had to shift to where a constant supply of food can be obtained. Be this as it may, it is to be feared that the voracious bird-catcher, whose only aim is cash, has a good deal to answer for in the disappearance of *C. elegans*.

Genus CHRYSOMITRIS, *Boie.*

Chrysomitris spinus, *Gould.* Siskin.

Like the Goldfinch, the Siskin is becoming yearly less numerous with us. It still breeds in various localities along the course of the rivers Dee, Feugh, and Don, where it is pretty safe from the wiles of the fowler; but now, around all our towns and villages, where these "ravenous wolves" could reach them, the beautiful Siskin has been exterminated; and it would seem that, at no distant date, should the craze continue amongst thoughtless men and women to have those innocent little birds pent up in gilded prisons, to drag out a short and dreary life, and droop and die to make room for another victim, the Siskin will soon have to be numbered "amongst the things that were."

Genus LIGURINUS, *Koch.*

Ligurinus chloris, *Gould.* Greenfinch. "Green Linnet." "Green Lintie."

This strong and handsome bird is common and resident throughout "Dee," building its nest in woods, plantations, and in ivy-covered walls. It collects in flocks in autumn, when it may be seen in the farmers' stackyards; while in severe weather it betakes itself to the open grounds along the sea coast. There it is often seen in company with Chaffinches, Bramblings, Linnets, etc.

Genus COCCOTHRAUSTES, *Brisson.*

[Coccothraustes vulgaris, *Hewitson.* Hawfinch.

Gray says: "In the southern and eastern counties, it has been traced from Dumfriesshire to East Lothian, and thence

to Aberdeenshire, Banffshire, and Caithness, in all of which counties several specimens have been obtained;" but he gives no authorities for those findings, without which the statement is of little value. It is not within my knowledge that a specimen has ever been found within "Dee."]

Genus PASSER, *Brisson.*

Passer domesticus, *Linn.* House-Sparrow.

Abundant throughout our area.

Passer montanus, *Linn.* Tree Sparrow.

This is a scarce and extremely local species. One was shot in 1847, in the neighbourhood of Aberdeen, by Mr. Thomas MacKenzie, latterly Sheriff of Sutherland, and was presented by him to the late Dr. MacGillivray. "Found breeding near Stonehaven by myself." (Colonel Drummond Hay, in "Report on the Ornithology of the East of Scotland," 1884.) I examined one that was killed near Stonehaven, December 10th, 1885. Mr. George Sim, Fyvie, informs me that one was shot at Darnabo, Fyvie, November 3rd, 1894. "Seen occasionally all over the Grampian ranges." (Adams's *Birds of Banchory-Ternan.)*

The Tree Sparrow has often been reported to the author as breeding around Aberdeen; but on every occasion where he has had an opportunity of seeing these "tree sparrows" they have proved to be *Passer domesticus* that had taken to building its nest in trees, in which cases the nest was a domed one.

One was caught near Portlethen in August, 1897, and was exhibited in a bird show in Aberdeen as a common sparrow. Its true character was there recognised by Dr. Galloway, Aberdeen, who bought it and kept it alive for a considerable time. In his hands I had an opportunity of examining it. Again, on 25th October, 1889, a specimen was shot by W. H. Ritchie, Esq., Dunnottar, who sent it to me. In a MS. by the late Mr. Stewart Burnett, the heads of a lecture delivered by him in Port-Elphinstone School in 1875 on "Birds occurring in the district," and lately shown to me by Dr. W. Tait, Inverurie, he mentions having found a dead Tree Sparrow at Conglass.

Genus FRINGILLA, *Linn.*

Fringilla cælebs, *Linn.* Chaffinch. "Chaffy." "Shelly." "Shellfowl."

Abundant and resident, and one of the most beautiful of our smaller songsters.

Fringilla montifringilla, *Linn.* Brambling. "Mountain Finch"

A winter visitor to "Dee," at which season it is to be seen about farm stack-yards. When the weather is severe, it comes to the coast, feeding familiarly along with Chaffinches, Snow Buntings, etc.

Genus LINOTA, *Bonaparte.*

Linota cannabina, *Linn.* Rose Linnet.

Abundant; resident, and breeds throughout "Dee," congregating in flocks of considerable size early in autumn, and continues so until spring, when the flocks break up, and, in pairs, betake themselves to the work of incubation.

[Linota linaria, *Linn.* Mealy Redpoll.

"Common in the wooded parts of the district, especially Blackhall." (Adams.) "Has occasionally been observed in Aberdeenshire." (Yarrell's *British Birds*, fourth ed., vol. ii., p. 135.) No authority is given for these statements.]

Linota rufescens, *Vieillot.* Lesser Redpoll.

"Common in the wooded parts of the district, especially Blackhall." (Adams's *Birds of Banchory-Ternan*, p. 21.) "Mr. Thomas Jamieson says he saw at anyrate one Redpoll near Castletown." (MacGillivray.)

"Breeds in the higher districts of the country rather numerously." (Edward, *The Naturalist*, vol. iv., p. 225.)

This species is resident and breeds in fair numbers in most suitable places throughout "Dee;" still, it is a species that is not generally well known here. A specimen was picked up dead beside the Loch of Drum by Mr. D. C. MacDonald,

solicitor, who brought it to me. Another was sent to me by W. H. Ritchie, Esq., Dunnottar House, January 29th, 1897. The nest on several occasions was found in Thom's Forest by the late Mr. Stewart Burnett.

Linota flavirostris, *Linn.* Twite. Mountain Linnet. "Heather Lintie."

The Twite is fairly abundant. In many of the wild woodless tracks of moor and marsh throughout "Dee" this species is to be seen during its breeding season. When the young are able to take wing with their parents, the family may be flushed from amongst the heather and gorse; and as autumn advances several families join, and thus they continue throughout the winter. Frequently, however, such flocks are to be seen in company with the Common Linnet, and in severe weather the Twites betake themselves to the coast, where they associate with Linnets, Bramblings, Snow-flakes, and Chaffinches; or to the stack-yards and barns, where they run the risk of capture under the "riddle trap" of the farmer boys.

Genus PYRRHULA, *Brisson.*

Pyrrhula europæ, *Vieillot.* Bullfinch. "Bullie."

"In the lower wooded tracts, but very uncommon." (MacGillivray.)

This fine bird has of late years very much decreased in numbers. Forty years ago I knew them as common where now none are to be seen. At that time they were abundant in the Turriff district, and even in the gardens of that town they were of no uncommon occurrence. In the Den of Maiden Craig, near Aberdeen, where they were common thirty years ago, I have also seen them; but now a "Bullie" is rarely seen there.

In the upper wooded reaches of the Don valley, as also in that of the Dee and Feugh, the Bullfinch is, however, still fairly abundant; and being there beyond the reach of urban bird-destroyers, it will be able to hold out for many years to come.

Genus PINICOLA, *Vieillot.*

[Pinicola enucleator, *Linn.* Pine-Grosbeak.

"I have seen them flying above the great pine forests of Invercauld, in Aberdeenshire; and I imagine they breed there, for I saw them on the 5th of August." (Pennant's *British Zoology*, 1812, vol. i., p. 423.) "I and my son saw a bird at Corrymulzie which attracted our notice by the red colour of its breast, and which, I think, was this species." (MacGillivray.) Has been seen "once or twice at a distance by myself near the Bridge of Dee." (Crombie, *Braemar*, 1861, p. 74.)

If the above notes are sufficient to establish the fact of the Grosbeak being an inhabitant of "Dee," the bird must be of rare occurrence. I have never seen a specimen, and, as Crombie says, "it has never apparently been killed in the district," it would seem wise to suspend a decision until such time as a local example falls into the hands of someone capable of setting the matter at rest.]

Genus LOXIA, *Linn.*

Loxia curvirostra, *Linn.* Crossbill.

It is to be seen in vast numbers in some seasons, while others may pass without one Crossbill being observed. The chief time of their appearance in "Dee" is autumn, at which season large flocks scour the pine woods. In the early spring of 1865, a number were observed in the woods beside the Loch of Skene by Mr. Robert Cameron, then teaching in the parish school there; eventually he found two busily building a nest. Of this he acquainted me, and I took the earliest opportunity of going to see it. The nest was placed in the fork of a fir sapling, about twelve feet from the ground; it was composed of fir twigs, but incomplete at that time. Some days later two eggs were deposited in the nest, but immediately after a snowstorm came on and the birds left the eggs and the locality. Mr. Cameron secured the eggs, one of which he kindly gave to me. In 1866, a nest and eggs were found by Mr. Wilson at Methlick.

On June 11th, 1867, a Crossbill was shot from among a

number at Pitfodels, near Aberdeen, by Mr. Smith of the North of Scotland Bank, who showed it to me. On the beginning of April, 1893, a Crossbill's nest was found in the woods of Haddo House, by Mr. George Muirhead, factor to Lord Aberdeen; four eggs were laid, two of which are now in the Haddo Estates Museum. In the *O. S. A.*, vol. xvi., p. 634, 1795, the Crossbill is included in the list of birds for the parish of Lonmay.

In the *Aberdeen Journal* for July 21st, 1810, is the following: "Within the last few days past a flock of birds have made their appearance here of a species rarely seen in this country. They are of the 'Genus Loxia' order, commonly called Crossbill or 'German Parrot.' They are inhabitants of Sweden, Germany, and the southern parts of Russia, and migrate periodically to this country. The last flock seen here was about seventeen years ago. They generally fix their residence in the neighbourhood of pine woods. Numbers of them have been shot at this time. The male is of a red-lead colour, mixed with deep brown, and has black legs. The colour of the female inclines to green, streaked with brown."

At page 351 of the *N. S. A.*, the Crossbill finds a place in the list of birds given for the parish of Peterhead.

Sub-Family *EMBERIZINÆ.*

Genus EMBERIZA, *Linn.*

[**Emberiza melanocephala,** *Scopoli.* **Black-headed Bunting.**

"Rare, but has been killed several times at Brucklay Castle, Kinmundy, and in the neighbourhood of Strathbeg." (Horn's *Birds of Buchan*, p. 240.) It is evident that Horn confounded this species with the Reed Bunting.]

Emberiza miliaria, *Linn.* **Corn Bunting.**

"Frequent in open fields." (Adams.) "To be seen in large flocks in severe winters." (Horn.) "Generally distributed in the cultivated tracts . . . and generally departs in autumn." (MacGillivray.) "In the east of Scotland, where this Bunting cannot be called an abundant species in

summer, very large flocks sometimes appear in the winter season." (Gray.)

The Corn Bunting or Common Bunting is one of our most plentiful birds to be seen during summer in all cultivated tracts throughout "Dee." Its nest is usually placed upon the ground among standing corn or long grass, and its favourite perch is on telegraph wires, the top of dykes, or wooden fences along the sides of the public highways. There its presence is ever made known by its strange and monotonous cry; and from such positions it may be seen to drop in heavy flight and dangling legs to alight amongst the grass or corn where its nest is situated. In autumn it collects in flocks and thus it continues until spring. This species is subject to considerable variation of colour; cream colour, sometimes with a few brown feathers intermixed, is not infrequent, but pure white is more uncommon. On December 29th, 1894, I had a cream-coloured variety whose stomach was filled with cleanly husked oats.

Emberiza citrinella, *Linn.* Yellow Hammer. "Yellow Yite." "Yellow Yorling." "Skite." "Yellow Yarlin."

This pretty bird is abundant and resident, forming considerable flocks in winter, and betaking themselves in spring to the margins of woods and whin coverts, where the nest is formed.

[Emberiza cirlus, *Linn.* Cirl Bunting.

In Gray's *Birds of the West of Scotland*, there occurs the following: "A specimen of the Cirl Bunting was shot near Edinburgh, and exhibited by Mr. James Wilson at a meeting of that society (Wernerian), held on 3rd February, 1816. This instance of the species having been found so far north in Britain remained for nearly fifty years the only representative for Scotland until a second was obtained in Aberdeenshire by Mr. Angus, who has kindly sent me the following communication regarding its occurrence: 'In December, 1863, a friend sent me some small birds which he had kindly taken the trouble to kill for two Kestrels which I then kept alive in confinement. He had procured the birds while Woodcock

shooting near Banchory, and on examining the lot, I found a beautiful male Cirl Bunting.' "]

[**Emberiza hortulana,** *Linn.* **Ortolan Bunting.**

Two are reported by Gray in his *Birds of the West of Scotland* as having been obtained in Aberdeenshire in 1863.]

Emberiza schœniclus, *Linn.* **Reed Bunting. "Ring Fowl." "Black-headed Bunting."**

Common, and breeds in all suitable localities throughout "Dee."

Genus PLECTROPHANES, *Meyer.*

Plectrophanes nivalis, *Linn.* **Snow Flake. Snow Bunting.**

This species visits us regularly every autumn and remains far into spring. It was long supposed that none of them remained with us during summer, but ample evidence has now been recorded of their doing so. MacGillivray says: "I have met with this species early in August in the Corry and on the summit of Lochnagar; on the Glas-mheal; in the western Corry of Cairn Toul; on the summit of Ben-namuic-dhui, and in several other localities."

In *Good Words* for May, 1887, appears a paper by Mr. David Bruce, on "A nest hunt among the Grampians," the nest after which he sought being the Bunting, and his hunting-ground was "a dreary spot called the 'Barren Hollow,' near the summit of one of the highest hills in the western corner of Aberdeenshire." This is a charmingly written paper, brimful of zoological information, and written in a highly poetical strain, by one who sees and can depict nature in whatever aspect she may present herself to him. Mr. Bruce failed to find the nest, but saw the birds, and was in no doubt that their nest was near. It was not, indeed, until 1886, that the nest of this bird was proved to be built on Scottish grounds. In that year Messrs. Peach and Gray found the nest and young, the report of which is recorded in the *Fauna of Sutherland*, p. 138; and in the

Zoologist for August, 1886, the nest is reported as having been found by Mr. Hinxman; and in June, 1893, he found a nest containing eggs on Ben Avon. In Sutherlandshire it was found by Mr. John Young in 1888.

Along the flat portions of the coast of "Dee," the Snowflake is to be seen in large flocks throughout the winter; but I have observed that those flocks are composed of what would appear to be immature birds, very few of them with the clean white secondaries and light underparts being seen among them; whereas on the hill-tops and snow-clad sides of the uplands, nearly the whole of each flock have the above-mentioned parts pure, clean, and white—appearing when the birds take wing as if the creatures were nearly all of that colour. In October 31st, 1891, while on the hills at the head of Glen Tanner, I heard the cry of this species but did not see the birds.

Genus ZONOTRICHIA, *Swainson.*

[**Zonotrichia albicollis,** *Gem.* **White-throated Sparrow.**

A specimen of this American species is reported in the *Proc. of the Natural History Society of Glasgow*, 1870, as having been shot on Aberdeen Links by the late A. Mitchell, on August 17th, 1867.]

Section OSCINES CULTRIROSTRES.

Family STURNIDÆ.

Genus STURNUS, *Linn.*

Sturnus vulgaris, *Linn.* **Starling.**

The history of the Starling in "Dee" is an interesting one, and much has been written for and against its appearance there. In the *O. S. A.*, vol. ix., p. 108, the Starling is claimed as a resident, an evident mistake. It is also included in the same work, vol. xvi., p. 634, among the birds of the parish of Lonmay. In the *N. S. A.* it is included among the birds of the parishes of Peterhead, Crimond, Longside, and Methlick, but only as an occasional visitor. Thus the matter stood, the birds only appearing as migrants, until

"in the spring of 1850, a pair of Starlings took up their abode near the Manse of Crimond, and eventually built amongst the thatch of a low house close by; and, at the request of the Rev. Mr. Boyd, they were left unmolested, and succeeded in rearing two broods that season; next summer several pairs came, and protection being given them, a still larger number appeared the year following." (Edward, "The Birds of Strathbeg," *Naturalist*, vol. iv., pp. 269, 270.) In the same year, a pair of Starlings built their nest between two chimneys in Peterhead; so I am informed by Mr. David Scott, late editor, *Peterhead Sentinel.*

"Starling—although common in the Outer Hebrides and other parts of Scotland, it is rather scarce with us; I only remember seeing a pair in 1845, which I shot." (J. Taylor, *The Naturalist*, vol. iii., p. 140, 1853.)

In the same vol., p. 220, is the following by J. Longmuir, jun.: "From the statement with regard to the occurrence of this bird in our county, one would be led to suppose that the Starling is a rare visitor in Aberdeenshire. This, however, is not the case; at certain seasons of the year it is very common in the neighbourhood of this city (Aberdeen). . . . It breeds in great numbers in various parts of our county, choosing sometimes (as at Keith Hall) high trees, in which it *excavates a deep hole* [the italics are ours], from which it is difficult to obtain the eggs in safety." In view of what has been recorded by others, and what I have myself seen of the Starling, the above statement—"*breeding in great numbers*" at the district indicated—is more than can be accepted; nor is "*excavating of holes in trees*" a habit known to the Starling.

"Small flocks of Starlings have occasionally been seen in Braemar, Crathie, and Glen Tanner, by Mr. Cumming and Mr. Stewart, but it does not appear that this species is permanently resident or breeds in any part of the district." (MacGillivray.)

"Occasionally a flock of Starlings appears in autumn either alone or in company with Jackdaws and Rooks. It was never ascertained that they bred here until the summer of 1856, when a Starling's nest, filled with young, was found in the woods of Raemoir. Another nest was found in the woods of Inchmarlo more recently." (Adams.)

From personal observation, I am enabled to say that, prior to 1860, the Starling was a regular spring visitor in the district I then resided in, viz., the valley of Cromar, which embraces the parishes of Logie-Coldstone, Tarland, and Coull. Being then in the habit of going out with the gun in company with a gamekeeper, I had the opportunity of seeing the Starlings passing northward each spring; but none remained to breed until the above date. Since that time they have year by year increased, until now no district throughout "Dee" is without Starlings in abundance, and they remain all the year round. This bird is by no means fastidious as to choice of a situation for the purpose of nidification: holes in trees, in turf dykes, amongst ivy, in ruined castles, under the eaves of churches and dwelling-houses, stables and cow-houses, dovecots, among the sticks forming Rooks' and Herons' nests—all are alike suited to its wants. In 1894, I saw several pairs of Starlings building their nests behind some advertising boards within the Ellon railway station, busily flying out and in without giving heed to the people who were within a few feet of them.

Charges of egg-stealing have been brought against this useful bird, but it may be asserted that every such case, when sifted thoroughly, has proved to be merely the silly imaginings of those who knew not the habits of the bird.

Genus PASTOR, *Temminck.*

Pastor roseus, *Linn.* Rose-coloured Pastor. "Rosy Cow-bird."

A rare and irregular visitor. In 1867 one was shot at Micras, Crathie, by J. Brown, farmer, there, who was also a taxidermist, and made a collection of birds. In his hands I saw the specimen. In the same year the late Mr. A. Mitchell shot one near Aberdeen; and in 1879 one was shot at Manar, Donside, and sent to me for preservation. It is still in Manar House.

[In Gray's *Birds of the West of Scotland*, p. 161, the author says: "Mr. John Wilson has informed me, through Mr. Angus, that in the summer of 1840 the nest of this species was obtained in a burrow in a sand-bank near Methlick, in Aber-

deenshire. On the nest being destroyed by some boys, the birds removed to another sand-hole about a mile distant; but Mr. Wilson does not think they succeeded in rearing a brood." The substance of this tale is repeated by Horn in his *Birds of Buchan.* Now, I have had correspondence and conversations with Mr. Wilson on this and kindred subjects, also the use of his "Journal of Zoological Observations," and in a letter of November 8th, 1895, he says: "I am sorry I did not have the chance to kill it. It did stop about the place a considerable time, and might have been long enough to bring out a young brood. It was in the policies, about half-a-mile from Haddo House, where there is a sand-bank. Latterly it (the bird) shifted half-a-mile further west. I did not see it there, but the labouring men, who had seen it at the first, told me they saw it there; and there, too, there is a sand-bank;" so that all Mr. Wilson says is that "the bird was there a considerable time, and might have been long enough to bring out a young brood." There is no word of boys having destroyed the nest, as told by Angus and reported by Gray; and Wilson assures me that no such tale was ever given to Angus by him.]

Family CORVIDÆ.

Genus NUCIFRAGA, *Brisson.*

Nucifraga caryocatactes, *Linn.* Nutcracker.

In the *N. S. A.* it is mentioned that "the rare Nutcracker" had been found in the parish of Alford, and had been identified as such by Major Thomas Youngson. There seems no reason to doubt the above statement. Major Youngson was evidently a good naturalist, and he has left behind him a large and beautifully-illustrated volume of MS. upon birds, which remains in the possession of his son, Thomas Youngson, Esq., advocate.

[Gray's *Birds of the West of Scotland,* p. 188, in reference to the Nutcracker, has the following note: "An example is referred to in the *Statistical Account of the Parish of Peterhead,* the writer of which states that a specimen of the Nutcracker, killed near that town, was in the collection of Mr. Arbuthnot there in 1833."] After careful examination I

can find no such observation made by the author of the *Statistical Account of Peterhead.*

Genus GARRULUS, *Brisson.*

Garrulus glandarius, *Linn.* Jay.

It seems strange that although this species is comparatively common about Perth, and extends northwards as far as Laurencekirk, within a few miles of the southern boundary of "Dee," I have not been able to find more than three records of its ever having crossed that line. It is fortunate that one of these occurrences was recorded by such a careful and painstaking observer as the late Mr. Alex. M'Pherson, Woodside, who, leaving nothing to memory, took notes of each observation as it occurred, and thus we have the following: "On Sunday, November 28th, 1875, I saw a Jay at the Fir Hill of Waterton. A pair of Blackbirds were teasing it and drew my attention to it. This is the only one I have seen in Aberdeenshire. It was a blue-winged Jay, *Garrulus glandarius.*" (MS. notes.)

I was informed by Mr. Gordon of Manar that he and his son saw one in front of his house in May, 1872.

I was also informed by the late T. S. Tait, Esq., Ardinnan, Inverurie, in January, 1896, that he heard a Jay had been caught in a trap on the estate of Fetternear, and was being preserved by a person in the neighbourhood. In a letter to me, Mr. James Mackie, Burnhervie, speaking of this bird, says: "There can be no mistake that the bird is right enough named or I would have sent it to you as I promised." Since then I have seen the specimen referred to, and there is no doubt of its identity.

Genus PICA, *Brisson.*

Pica rustica, *Scopoli.* Magpie. "Pyet."

Owing to superstitious notions, the Magpie is one of the most abused and highly persecuted birds we have. Forty years ago this pretty bird was fairly abundant in most parts of "Dee," but from that time onwards till near the present day it was being steadily exterminated in many quarters.

For the past few years, however, a decided increase has taken place, and for several years back I have, in my wanderings through various districts of "Dee," met with the Pyet in places where it might have been least expected. All along the valleys of the Dee and Don it is fairly frequent, and among the wooded districts of Braemar I was pleased to see it was not uncommon. Around Aberdeen it may be said to be plentiful, and in the neighbouring parish of Nigg, on the south side of the Dee, six to eight magpies may be seen flying overhead or resting upon the dykes at one time.

That the Magpie occasionally takes an egg or young bird need not be denied, but what of that? It has a right to its share as well as the highest in the land. If every creature is to be persecuted to the verge of extinction for some slight action that may appear to man as inimical to his interest, where is such action to end, and what creature is safe?

Genus CORVUS, *Linn.*

Corvus monedula, *Linn.* Jackdaw. "Daw." "Kae."

This bird is abundant in most parts of "Dee," rearing its young in the rocky caverns along the coast, or among the crumbling walls of ancient Dunnottar; in church towers, or the ivy-covered walls of modern gardens; the roofless towers of baronial halls, or the more lowly pigeon-house; the old banqueting halls and ball-rooms of the ancient Gordons of Gight, the Cheynes of Inverugie, and the Keiths of Ravenscraig; the historical and ivy-covered ruins of Kildrummy Castle, and the old and ugly Castle of Corgarf—all these and many others of the ancient strongholds of the departed lords of the land the Jackdaw now claims as his own, and successfully holds possession against all assailants. It is common on the rocky faces of the mountains of Mar, and even in the disused chimney-pots of the older portions of the city of Aberdeen.

Corvus corone, *Linn.* Carrion-Crow. Hooded Crow.

It is with considerable diffidence that I approach the subject of the Carrion-Crow. It has been looked upon for so long as a good species, that to express a different opinion

is to go against the findings of many naturalists of high repute. It may be that I have not had a sufficiently wide field of observation; but I am driven to the conclusion that the Carrion-Crow and the Hooded Crow are one and the same. At anyrate, in so far as the birds frequenting "Dee" are concerned, there certainly are not two species. For over thirty years attention has been given to this problem, in so far as it can be studied locally, and the more closely these two varieties of Crow have been watched, the more convincing is the fact that they are not distinct species. Along the rock-bound coast these birds nest in numbers, and a black, *i.e.*, Carrion-Crow, mated with the grey, *i.e.*, Hooded Crow, is quite as common an occurrence as two blacks or two greys nesting together. Moreover, the progeny of this black and grey combination are to be seen, one half of them grey, the other black. These two varieties have been repeatedly observed along the coast line and in the wooded inland district. These considerations, joined with the fact that the habits as to feeding and mode of life are identical in both forms, compel me to say that in so far as "Dee" and the north-east of Scotland are concerned, the two varieties form but one species, and any description of the one is quite as applicable to the other, except in so far as colour is concerned.

Corvus frugilegus, *Linn.* Rook. "Craw."

Resident throughout the year, breeding in immense colonies over a large extent of "Dee." Perhaps few of our local birds have been subjected to more cruel persecution than the Rook. Societies have been formed whose sole object was the destruction of this bird, and the numbers slaughtered under the guidance of such associations at the annual breeding season have been heralded through the public prints, and as graphically described as if some mighty battle had been won, the vanquished having offered a stubborn and valiant resistance, and only having been overpowered through the immense numbers of their opponents! Even local doggerel rhymesters have raised their voices in commendation of the deeds of these rook-destroying associations, which were chiefly composed of farmers who believed that their crops were

injuriously affected by the rooks. But while thousands of old rooks were killed, and their young in greater numbers allowed to perish of hunger in the nests, the farmers found that their crops still went wrong, and that insect pests became even more abundant; so many of these associations have sunk out of sight, and no wonder. What more interesting sight is there than to watch a number of rooks walking sedately over a field in spring, and turning over each clod and stone in search of various forms of insect life which it is impossible for the farmer to check, and whose ravages often frustrate the agriculturist's best endeavours. The rook is, therefore, one of his most useful allies, and is worth a few potatoes or stalks of corn at times when grubs are not so abundant as to meet their needs.

We cannot omit repeating what is said of the rook by the writer of the report for the parish of Drumoak as it appears in the *N. S. A.*, pp. 877-8. "The myriads of birds which belong to this rookery and inhabit it throughout the year, except for a few weeks in summer when many of them are supposed to migrate in quest of mountain berries, are not only of great benefit to the country for many miles around, but from the commencement of incubation to the time at which their young become capable of providing for themselves, they are particularly so to the farmers in their immediate neighbourhood, for, being unable at that period to go far from their nests in search of food, they are daily seen actively employed in turning clods and clearing of vermin the newly sown fields, so that few complaints are heard in this parish of the destructive ravages of grubs." Although the use of the rook was thus clearly pointed out in 1843, is it not sad to find, even in this new century, people still so blind to their own interest that they will wantonly shoot down one of their best friends?

Corvus corax, *Linn.* Raven. "Corbie."

This fine bird is on the verge of extinction in "Dee," where in former times it was abundant. "This bird was very common about sixty or seventy years ago." (George Sim, MS. list of the Birds of Fyvie.) Mr. John M'Bain, late head keeper to Lord Aberdeen, informs me that some

fifty years ago, when he lived at Stonehaven, the Raven was common there. Ravens built at "Earn's Heugh," "Maitland's Hole," and "Kye's Hole," on the estate of Findon; as also at Craigstirling, on the estate of Cammockmore, till 1848 or 1849, or, as the writer's informant puts it, "up to the time when the railway was made between Stonehaven and Aberdeen."

In the report on the parish of Strathdon, as given in the *N. S. A. of Aberdeenshire*, pp. 534 to 538, 1843, an excellent zoological list is given, in which it is said that the "Raven *(C. corax)* breeds annually in the Slocks of Glencarvy." "Seldom seen except about the tops of the Grampians and on the Hill of Fare." (Adams.) "Many years ago the Raven was seen regularly about the higher parts of the district at Aberdour and Mormond Hill, and used to breed on the cliffs near Pennan and Troup Head." (Horn's *Birds of Buchan*, p. 241, 1880.)

As some indication of the numbers of Ravens that existed in "Dee" in the end of the eighteenth century, we may quote from the association's report for the destruction of ravenous beasts and birds, as mentioned in the *O. S. A.*, vol. xiv., pp. 348-9, that "forty-two Ravens had been destroyed and their destruction paid for."

Mr. Ramsay, keeper, Slains, informs me that, in 1855 or 1856, he killed three Ravens upon the Links of Collieston, where they had been hunting for a week before. These were the last seen in that quarter. In the Aberdeen *Free Press* of October 27th, 1868, a Raven is reported as having been shot in the parish of Lonmay. Two are recorded as having been seen by Edward at Gamrie Head on 31st December, 1850, *vide* Smiles's *Life of a Scottish Naturalist*, p. 218. It was reported in the Aberdeen *Weekly Free Press* that a Raven was trapped on Morven by Mr. Cameron, January, 1884.

Mr. James Kidd says that while he was keeper at Troup, he, in 1885, killed four Ravens there. They were the young of that year, and had been hatched about Knock Head, Whitehills, to the west of Banff. One was received from Braemar in 1892. Mr. Thomson, late keeper, who lived at Dachlash, near Castleton of Braemar, told me in 1893 that the Raven is to be seen almost daily around his dwelling during winter.

In June, 1898, I saw several Ravens on the top of

Cairnwell, Glen Clunie. They came flying leisurely within easy distance, thus affording excellent opportunity for identification.

Section OSCINES SCUTELLIPLANTARES.

Family ALAUDIDÆ.

Genus ALAUDA, *Linn.*

Alauda arvensis, *Linn.* **Sky-Lark. Lark. "Liverock."**

Abundant, and distributed over the whole extent of "Dee." Let the student of nature go where he will, except on our highest mountains or forest-covered tracts, the Lark is ever to be seen. It sings in early spring, and long after most other songsters have ceased their charming strains, the Lark's joyous melody is to be heard overhead.

When the leaves of autumn assume their various tints, the Larks collect in flocks to wind their way to more favoured districts, often never to return, as they are waited for by the fowlers who take them by thousands and sell them to the idle gourmands of London and other large centres of population. Still, although many leave in autumn, a few remain during winter, and they may be seen in scattered flocks feeding on the cultivated fields; but when "Boreas wi' his blast sae bauld" has laid the fields under a sheet of snow, the "Liverock" betakes itself to the coast line or open meadows, there to pick a scanty fare until the return of spring. Then do they betake themselves to their wonted haunts, and while the female broods over her speckled store by the side of some sheltering clod or grassy tuft, the male soars on high and pours forth his flood of music as blithely as if he had passed through no trials during the severe and hoary months of winter.

[**Alauda arborea,** *Linn.* **Wood-Lark.**

"In the last week of March, 1863, I shot a male Wood-Lark in the enclosure at Scotston House, near Aberdeen." (Note by Angus in Gray's *Birds of the West of Scotland.*)]

[Alauda alpestris, *Linn.* Shore-Lark.

"I have no doubt that this species is a frequent, if not an annual, visitant to the eastern shores of Scotland, ranging from the Ythan to the Tweed." (Gray's *Birds of the West of Scotland*, p. 118.) "Others were seen at various localities, reaching from Aberdeen in the north to Weymouth in the south, between the middle of November and the month of March following" (1869-70). (Yarrell's *British Birds*, 4th Ed., p. 607.) "An irregular winter visitant to the coasts of Great Britain, from Aberdeen in the north to Tor Bay in the south." *(British Ornithologists' Union's List*, p. 73.)]

Notwithstanding the above, it appears to me that something more precise is wanted before the Shore-Lark can be admitted to the list of birds that frequent "Dee." The two latter statements seem to be made on the strength of Gray's supposition; but as that author gives no particulars, nor even says that a single specimen was to his knowledge obtained in Aberdeenshire, we must wait till someone can show a "Dee"-killed specimen before the Shore-Lark can with certainty be placed in the list, for suppositions cannot be accepted as facts, whoever may express them.

Order PICARIÆ.

Sub-Order *CYPSELI.*

Family CYPSELIDÆ.

Genus CYPSELUS, *Illiger.*

Cypselus apus, *Linn.* Swift. "Black Swift."

Common, and breeds, appropriating for the purpose of nidification such holes as it can find under the eaves of houses, towers, etc., and is evidently on the increase. It arrives in "Dee" about the end of April, and generally leaves by the middle or end of August; but some remain later. On September 11th, 1902, I had one whose wings and tail feathers were not fully grown, therefore it could not have departed until well into October.

Family CAPRIMULGIDÆ.

Genus CAPRIMULGUS, *Linn.*

Caprimulgus europæus, *Linn.* **Nightjar. "Goatsucker." "Fern-Owl." "Churn-Owl."**

This interesting bird is more common throughout "Dee" than is generally supposed; but before it can be seen and its habits studied one has to visit the solitary wooded glen or coppice-covered knoll when the evening shadows are gliding into night. At such time and place the pleasing churl of the Fern-Owl may be heard. Again, along some hill-side at dawn of day, squatted on a moss-covered boulder or old tree-stump, the Goatsucker may be seen, usually in pairs, sitting side by side, but generally "head and tail." Thus placed, I have frequently come upon them in early morning; the colour of their plumage and the dull and dreamy light preventing their presence from being seen until close upon them, so like are they to the surroundings. On rising, the male, who generally is the first to take wing, utters a soft whistling cry of two notes, then both betake themselves to where they consider they are beyond danger. The eggs of the Nightjar are one of the "collector's" most beautiful treasures.

Sub-Order *PICI.*

Family PICIDÆ.

Genus PICUS, *Linn.*

Picus major, *Linn.* **Great Spotted Woodpecker.**

This fine bird is a usual, although irregular, visitor to "Dee," generally in autumn. It is not known to breed within the district, although at one time not very far back it seems to have been regular in its nidification in the pine woods of Scotland, notably in the forest of Rothiemurchus, where even yet the old trees are to be seen with the Woodpeckers' "nest-holes." We are indebted to Mr. Harvie-Brown of Dunipace for bringing to light these facts, and for many other interesting particulars regarding this species.

I have searched some of the old pine forests in "Dee" with a view to finding whether the Woodpecker had at any time bred in the district. By the kind permission of the late Sir William Brooks, Bart., the forest of Glen Tanner was carefully searched, under the guidance of Duncan MacKenzie, who knows where the oldest trees are, but no trace of the bird ever having been there now remains, if ever such existed; nor are there any traditions among the people of any such bird being known there.

In the Account of the Parish of Birse, as it appears in the *O. S. A.*, vol. ix., p. 108, among the resident birds are mentioned "Woodpeckers of the larger and lesser kinds;" but this statement cannot be taken as evidence of the bird's presence, for it is quite plain the compiler of the list was not acquainted with zoological matters.

Gray says: "This Woodpecker is known to breed in limited numbers in Banffshire, Aberdeenshire, and a portion of Inverness-shire. I have examined specimens that were shot in these counties during the breeding season of 1867-68." It is unfortunate that Mr. Gray did not think fit to be more precise in this matter, stating where these specimens were shot and who shot them, and what evidence was brought forward as to their having been bred within the counties named.

Mr. George Sim, Fyvie, informs me that "the Spotted Woodpecker used to breed beside the Old Castle of Gight. The female was caught on the nest, which was within an old tree," and was seen by him while yet in the flesh.

During the winter of 1889 over a dozen were sent to me from various parts of "Dee."

[Picus viridis, *Linn.* Green Woodpecker.

"Was *seen* in 1847 at Nellfield; and in 1850, one was procured at Arthur's Seat." (J. Taylor, *Naturalist*, vol. iii., p. 140.) The above-named places are within the city of Aberdeen.

Gray, in his *Birds of the West of Scotland*, p. 189, says: "In 1868, Mr. Hunter of Tillery had *seen* a single bird in the woods near his residence." Tillery is in the county of Aberdeen.]

Sub-Family IYNGINÆ.

Genus IŸNX, *Linn.*

Iÿnx torquilla, *Linn.* Wryneck.

Rare; has been observed several seasons in succession at Aboyne by Mr. Watters, naturalist, and at least once killed there by him. Gray reports one as having been killed near Birse, in July, 1864. (*Birds of the West of Scotland*, p. 193.) Mr. Wilson, Methlick, reports the birds having been "observed" at the Braes of Gight.

Sub-Order *ANISODACTYLAE.*

Family ALCEDINIDAE.

Genus ALCEDO, *Linn.*

Alcedo ispida, *Linn.* Kingfisher.

An irregular visitor and not known to breed until 1901, although they have been observed at times when their nesting might have been expected. From 1863 to 1890, fourteen specimens have come under my notice, and these have been obtained in various parts of "Dee," from the sea coast to Braemar.

J. Wilson, in his MS., says: "Very rare; I saw two individuals, one in September, 1850, and another in September, 1858." A female was shot near the Bridge of Dee at Aberdeen, January 29th, 1897, by Master A. Hall who brought it to me, and one which also passed through my hands was shot at Durris, July 22nd, 1897. One was seen during the month of March, 1898, at Druminnor, by P. A. H. Grant, Esq., the proprietor, who notified me of the fact, and in November, 1898, one was seen on the Don by the Messrs. Tait, Inverurie. Another was killed at Culter, on the Dee, December, 1898; and in January, 1899, the Messrs. Tait again saw one on the Don at Inverurie. Mr. C. Rainnie, Tertowie, saw one there on February 16th, 1899. Mr. J. Mutch, late head gamekeeper at Pitfour, has since informed me that a pair of Kingfishers built their nest and brought out their young beside his house, at Stuartfield, in 1901.

Family CORACIIDÆ.

Genus CORACIAS, *Linn.*

Coracias garrula, *Linn.* Roller.

This is a rare and very irregular visitor to "Dee." In the *Zoologist* for November, 1848, p. 2302, the late Rev. James Smith, minister of Monquhitter, in speaking of a Roller that had been shot near Banff, says: "With the exception of one which was obtained many years ago near the Loch of Strathbeg, I am not aware of any specimen having been previously seen or heard of in this part of the country."

In 1856 or 1857, one was shot on the estate of Parkhill by the gamekeeper there, who gave it to Mr. William Davidson, keeper at Seaton House. He preserved the specimen, and in his possession I saw it. Ultimately he gave the bird to a friend, from whom I bought it, and it is now in the Kelvingrove Museum, Glasgow. This is the specimen mentioned at p. 203, in Gray's *Birds of the West of Scotland;* but the story given in that work is altogether wrong.

Family MEROPIDÆ.

Genus MEROPS, *Linn.*

Merops apiaster, *Linn.* Bee-eater.

Very rare. In 1850, three were seen by Mr. Brand in his garden, Ravenscraig Farm, near Peterhead. One of these he killed, and I saw this specimen in Mr. Brand's house in June, 1890. One was shot by the late Mr. Wallace, gardener, Kinmundy, June 4th, 1852. A beautiful water-colour sketch of this specimen was made by Mr. Thomas Ferguson, for a sight of which I am indebted to W. Ferguson, Esq., LL.D., of Kinmundy.

Family UPUPIDÆ.

Genus UPUPA, *Linn.*

Upupa epops, *Linn.* Hoopoe.

This straggler has occurred in "Dee" more frequently perhaps than in any other district in the northern portion of Scotland. "One was shot by Thomas Ligertwood on Belhelvie Links, in 1826; another at Tillyhows by James

Duncan, in 1848" (Gray); and in 1852, two were killed at Kintore and sent to Mr. Henderson for preservation. In the same year one was seen at Haddo House. One was shot at Nether Banchory by G. Leith, gamekeeper, in 1856. One was killed near Girdleness Lighthouse, April 23rd, 1868, and sent to me, and one was obtained by the gamekeeper at Tillery, April 25th, 1868. On September 29th, of the same year, another at Muiresk, near Turriff. One was shot in the parish of Cruden, August 16th, 1886; and in 1887, one in the parish of Fyvie. On October 11th, 1888, a bird of the year was found dead at Blairs, Deeside. On August 26th, 1891, one was shot in the parish of Fyvie, and preserved by Mr. George Sim, Gourdas.

On September 7th, 1891, one was seen by Miss D. Hamilton at Skene House, where it remained for a week, "hopping about the shrubberies, and was not shy." On May 19th, 1893, one was seen at Gourdas, Fyvie, by Mr. George Sim. On September 13th, 1893, one was killed at the farm of Nittinshead, Bonnykelly, near New Pitsligo. On October 12th, 1894, an immature one was shot near the mouth of the Don and brought to me for identification. On September 25th, 1895, an immature bird was shot by Mr. Murray, Newlands, near Aberdeen. Its stomach contained a number of large white caterpillars. On August 22nd, 1896, one was killed near Rhynie; and on September 7th following, another near the same place. Both were preserved by Mr. George Sim, Fyvie. In October, 1898, one was killed at Ardo, Banchory-Devenick.

From the foregoing, it will be seen that this species has been observed in various months over a considerable portion of the year. Its food, while with us, so far as I have seen, is made up of caterpillars, beetles, worms, flies, and earwigs.

Sub-Order *COCCYGES.*

Family CUCULIDÆ.

Genus CUCULUS, *Linn.*

Cuculus canorus, *Linn.* **Cuckoo. "Gowk."**

The pleasant cry of this summer visitor is to be heard in every quarter throughout "Dee;" yet how few there are who

know the bird by sight; and as a consequence how many poor Cuckoos come by their death each season on account of their supposed hawk-like appearance and man's ignorance, it is impossible to say; yet the number must be considerable, for any bird having the least resemblance to a Hawk is mercilessly shot down. Even when busily engaged in gathering the caterpillars from the gardener's gooseberry bushes, the Cuckoo's life is not spared, for they are believed to be eating the berries instead of the grubs, and belief is enough. The idea of examining the stomach of the victim is never dreamt of; enough has been done when the "brute" has been killed.

Young Cuckoos are subject to considerable persecution by other birds. While I was on an excursion in June, 1891, among the dreary waste of sand that stretches from Ythanmouth northwards, a number of Terns were observed chasing a young Cuckoo for a long time, swooping down upon it while it "dodged" around the benty hillocks, every now and then emitting a wild frightened scream as the Terns dashed upon it. So intent were pursuers and pursued in their movements that they took no notice of my presence, often coming within a few feet of me, and the chase was kept up as long at least as the birds were in sight.

Order STRIGES.

Family STRIGIDÆ.

Up to this point the author has held pretty strictly to the arrangement as given in the list of the British Ornithologists' Union; but here he feels bound to make a stand, as he can see no good reason for dividing and sub-dividing the various Owls into a number of what appears to him unnecessary genera. Hitherto most writers seem to have been a law unto themselves in these matters; therefore, in the absence of any consensus of opinion, I have included all the Owls under the genus *Strix*, as being much more convenient and far less confusing.

Genus STRIX, *Linn.*

Strix flammea, *Linn.* Barn Owl.

Comparatively rare. During a period of over forty years I have only known of the following as being found within

"Dee." In 1859 a pair bred in an old dove-cot at Haddo, parish of Forgue. March 12th, 1890, a female was killed at Tillyfourie, Vale of Alford. August 29th, 1891, one was killed at Dyce. October 14th, of the same year, one was killed by Mr. George Walker, Woodside, Scoltie, Banchory. On January 15th, 1892, one was killed at Rattray; and on February 15th, 1895, one was caught alive on a corn-stack at Portlethen. The day following one was shot near Don-mouth.

The above-mentioned all passed through my hands. The Barn Owl has also bred for several years under a railway bridge near Drumlithie. In recording occurrences of this species, care has to be taken to find out if the informant is acquainted with what he speaks of, because I have often had reports given me of the Barn Owl having been seen and killed, which turned out to be the Tawny Owl instead, the name "Barn Owl" being often given to the Tawny.

A specimen of the Danish form of this species was killed near New Deer on 6th November, 1886, and was sent to Mr. William Mathers, Aberdeen, in whose possession I saw it; and on November 23rd, 1897, a female was killed at Portlethen, and brought to me.

Strix otus, *Linn.* Long-eared Owl.

One of the most abundant Owls we have in "Dee." Resident; and breeds over the whole district where it can find a suitable habitat, and there are many. It is pitiful to think of the treatment that is meted out to this most useful bird. Dozens of them are brought to me every season, many of which have done little more than leave the nest, and whose stomachs in every case contain the remains of mice. Still, keepers and farmers—indeed, every person in possession of a gun—shoot down every one they see.

Strix brachyotus, *Forster.* Short-eared Owl.

A regular autumn visitor to "Dee," at which time it is to be found in turnip fields and marshy ground, and in which places it is often killed.

Gray records a nest with three eggs of this species having been found in Aberdeenshire on the 8th of April, 1868.

"One was shot at Lumphanan in the first week of June, 1893." (Note from Mr. McBoyle, Peterhead.)

Strix aluco, *Linn.* Tawny Owl.

This, like the long-eared species, is one of our resident and most abundant Owls. Indeed, it is difficult to say which of these two are the more numerous. The food of both is alike, and the observations made in reference to the usage to which the Long-eared Owl is subjected are equally applicable to this species.

Strix scandiaca, *Linn.* Snowy Owl.

A rare and accidental visitant to "Dee." Horn, in his *Birds of Buchan*, p. 243, says: "A specimen of this noble bird was picked up dead upon the Loch of Strathbeg about 1824," but gives no indication as to where he obtained his information, who found the bird, or what became of it. A specimen, which measured six feet in extent of wings, was shot in Glennochty, in 1851, by Mr. John Lawson, now of Huntly. In the year 1864 one was shot at Rora, parish of Longside, and was bought from its captor by Mr. A. Baxter, police constable, Strichen, who preserved it, and ultimately gave it to a friend in the neighbourhood, who, in turn, gave it to an English gentleman, who took it to London. One was shot on the estate of Glenbervie, the property of the late J. Badenoch Nicholson, Esq., and is still in Glenbervie House. It is a splendid adult specimen, and evidently a female. In November, 1867, one was seen on the Hill of Cruden by the late Mr. Dawson, schoolmaster there, who informed me of the occurrence at the time.

Strix tengmalmi, *Gmelin.* Tengmalm's Owl.

Only a single instance of the occurrence of this species is recorded for "Dee," a specimen having been killed near Peterhead on 3rd February, 1886, and reported in the *Scottish Naturalist*, vol. viii., p. 308, by Mr. George Sim, Fyvie.

Strix scops, *Linn.* Scops Owl.

A fine female specimen of this rare little Owl was picked up dead, but in a perfectly fresh condition, near Kintore, on

September 2nd, 1891. Extent of wings, 18 inches; from beak to end of tail, 6½ inches; weight, 2½ ounces. Its stomach was crammed with earwigs and beetles, the former in far the larger number. It is now in the possession of Mr. J. Simpson, Aberdeen.

[Strix bubo, *Naum.* Eagle Owl.

Gray, in his *Birds of the West of Scotland*, pp. 55 and 56, records the occurrence of this species in Aberdeenshire. "It had been seen by Mr. John Wilson at Methlick on the 2nd of February, 1866, and followed by him for a considerable distance, and he got near enough to be sure of what was before him. Mr. Wilson has been long a keen and careful ornithologist, so that there can be no doubt he saw what is reported." Gray further adds that in the last week of the same month "an adult Eagle Owl found its way to Aberdeen from Mr. Wilson's neighbourhood." The above, Gray adds, had been "kindly forwarded to me by my correspondent, Mr. Angus." Having had conversation with Mr. Wilson regarding ornithological matters, he informed me that the above story is defective. Mr. Wilson says he never asserted or wished anyone to believe he was sure of the identity of the bird, which was seen in the early morning while the light was yet indifferent; and in addition to this, the date 1866 is wrong. His journal shows the real time to have been 1862, from which he argues that the one said to have been seen by Mr. Angus from the Methlick district can have little relation to the bird which he (Mr. Wilson) saw.]

Strix noctua, *Scopoli.* Little Owl.

A female was shot at Blairs College, Deeside, on February 1st, 1902, and sent to me for preservation. It was killed while flying about in daylight. Its stomach contained the beak and some other portions of a starling.

Genus SURNIA, *Duméril.*

Surnia ulula, *Linn.* European Hawk-Owl.

An adult female of this rare species was shot at Gight, November 21st, 1898, by Mr. William Smith, factor on the

Haddo House estates, and it is the only example known to me as having been obtained in Scotland, except the occurrence of one in Unst—*(Vertebrate Fauna of Shetland*, p. 110). The Gight specimen weighed 11½ ounces; expanse of wings, 28½ inches; length from beak to end of tail, 14½ inches. The stomach was filled with the bones and hair of mice. The chief external differences in this species from that of our native Owls are its long rounded tail and short wings; and the principal internal difference lies in the fact that the furcula is not complete, that is, it does not form the usual V- or U-shaped bone common to most other birds, but takes the form of two long bony processes which are united to the anterior point of the sternal crest by strong ligaments, each three-fourths of an inch long.

This species has a wide distribution, being common in "Northern Europe, Siberia, and Kamtschatka, migrating into Central Europe accidently, and in winter." *(British Ornithologists' Union's List.)*

Family FALCONIDÆ.

Genus CIRCUS, *Lacépède.*

Circus aeruginosus, *Linn.* Marsh-Harrier.

The only instance of the occurrence of this species in "Dee" is that of a male which was shot on May 12th, 1881, by Mr. J. Coutts, at Loch-head, Dinnet, who sent it to me. Mr. A. G. More reports that it breeds regularly in Aberdeenshire, but I am unable to corroborate that statement. Mr. T. Edward was Mr. More's authority for Aberdeen and Banff.

Circus cyaneus, *Linn.* Hen-Harrier.

If ever this species was common in "Dee," it is certainly not so now. One was killed at Slains Castle, October 16th, 1865, which was forwarded to me; and a male was killed at Dunecht, in April, 1894, and was preserved by Mr. Benzie, Aberdeen, in whose hands I saw it. These are all the instances I am aware of during the past forty years.

"Some thirty years ago we used to recognise it pretty frequently in the Glen of Dye and among the woods of

Crathes; now it has become a *rara avis*." (Adams.) This is a doubtful record. The Glen of Dye and woods of Crathes are not localities which the Hen-Harrier would be at all likely to frequent.

Genus BUTEO, *Lacépède.*

Buteo vulgaris, *Leach.* Common Buzzard.

Although this bird is called the "Common Buzzard" it cannot be said that it is numerous within "Dee." It is not resident nor is it known to breed, and is therefore seen only during its autumnal movements, at which season a few are killed, chiefly along the coast.

Buteo lagopus, *Gmelin.* Rough-Legged Buzzard.

Like the preceding, this bird is merely an irregular autumn visitor to "Dee." In some seasons a good many are killed, while others may pass and no Buzzards be seen. Those that have come to my hands have been, with few exceptions, mature birds, and the differences in colour and intensity of markings are very remarkable.

Genus AQUILA, *Brisson.*

[Aquila clanga, *Pallas.* Spotted Eagle.

"Spotted Eagle, *A. nævia*, shot in Aberdeenshire, September 20th, 1861." (Annual report for 1880-81 of the Leeds Phil. and Lit. Society.)]

Aquila chrysaetus, *Linn.* Golden Eagle.

This noble bird still lingers with us although its numbers are sorely reduced as compared with what they were in times gone by, and its nesting-places within "Dee" are now few indeed. For the past fifty years or more, a war of extermination has been going on against it, and there is no doubt but that the Eagle would, in a few years, have been numbered amongst the birds that were; but better thoughts concerning it have prevailed, and of late years, in some quarters throughout the district, protection has been extended to it during the breeding season, by which means some slight increase in the

numbers is noticeable. Still this favourable turn of events will require to be extended very considerably in the same direction before any permanent increase can be maintained. Several of our landed proprietors have issued orders that the Eagles are in no way to be molested, and the result is that in those places the birds build new or repair their old nests year after year in security and peace. Owing to this happy state of affairs, I had the opportunity, through the kindness of the late Sir W. Cunliffe Brooks, Bart., of visiting the Forest of Glen Tanner and of inspecting the Eagles' nest there, and also received from the same generous hand a photograph of the tree on which the nest has been for several years back.

The photograph was taken while the Eaglets occupied the nest, and shows both of them looking over its edge. Previous to the nest being in its present site, it was situated on a low dwarfed fir tree in another part of the glen, where the nest was easily reached, and from which the eggs were sometimes taken. "This species bred in the forest of Birse; an egg was taken from the nest in 1851 by Mr. Ewan." (Taylor, *Naturalist*, vol. iii., p. 139.) The egg in question Mr. Ewan subsequently placed in the Museum of the Aberdeen United Free Church College.

A pair of Golden Eagles had their nest upon a rock at Clash Mor, and another pair at Tronabruich, beside the Bridge of Dee, at Invercauld (1888-89)—so the late Mr. Thomson, Dachlash, Braemar, informed me. A pair breeds in Glen Dee on a rock near the Devil's Point, and another pair in a fir tree in Glen Quoich. In Glen Derry a pair bred in a fir tree; but a few years ago the tree fell, and the birds have not been known to nest there since. A pair also bred on the northern shoulder of Socach Mor, near the head of Glen Ey. A pair bred in Glen Beg. They were seen there by Mr. Clark, secretary to Aberdeen Natural History Society, in 1899.

After the breeding season the birds wander far from their nesting-places, and too frequently fall a prey to the thoughtless keeper and prowling poacher. At such periods they are often seen singly, or in pairs, about the mountainous region which forms the watershed between "Moray" and "Dee," especially so about the hills at the head of Glenbucket, where Mr. Fletcher, steward upon the Glenbucket estate, sees them frequently; as also away towards Ben Avon, from which

regions the birds make excursions into the eastern parts of the country, where, as already said, they fall to the gun of the wandering marksman, or end their days in the cruel traps that are set for "vermin." It is singular how many Eagles get caught in traps, and after several days' struggling manage to effect their escape, with the loss of a toe. The writer has observed that in about every six birds four have lost a toe, and the "stump" had healed before the bird finally came by its death.

"A very large bird of prey was trapped at Cairness about twenty-five years ago; it was of a tawny colour, feathered to the toes, and was supposed to be an immature specimen of the Golden Eagle." (Edward, "Birds of Strathbeg," *Naturalist*, vol. iv., p. 270, 1854.) "One was killed at Birse in 1844. About twelve years ago a very fine male Eagle of this species was caught in a trap set for a fox near the foot of the Grampians, in Strachan. It carried the trap over the mountain range, a distance of at least ten miles, and got entangled in a hedge near Fettercairn. It was bought by a gentleman and kept for several years." (Adams.)

An immature specimen was shot at Pitfour, November 26th, 1869, and another in Strathdon about the same time. On February 11th, 1884, a fine female was shot at Haddo House. In the same year two were killed at Glenbucket. All these, with the exception of the last two mentioned, passed through my hands. One was shot in Strathdon, October, 1898; and on 12th November following one was caught in a pole-trap at Auchinblae, both being sent to me.

From January, 1776, to 1786, as stated in the association's list for the destruction of ravenous beasts and birds (*O. S. A.*, vol. xiv., pp. 348-9), seventy Eagles were killed in the parishes of "Braemar, Crathie, Glenmuick, Tullich, and Glengarden."

Genus HALIAËTUS, *Savigny*.

Haliaëtus albicilla, *Linn.* **White-tailed Eagle.**
"Sea Eagle." "Erne."

It is said by authors that this species is more abundant in Scotland than the Golden Eagle; and no doubt at one time this statement was correct, but it does not apply to "Dee" at

the present day. That the Sea Eagle was resident and bred within our confines is indisputable, for along our coast line many rocks still retain the name of "Erne Heugh" or "Erne Craig"—places where the birds at one time reared their young.

Adams says *(Birds of Banchory-Ternan*, p. 10): "Certainly not so rare as the former (Golden Eagle), and yet we are not aware that a specimen has been procured in the district for some time past. An Erne, however, a few years ago, was taken somewhere in the Grampians and exhibited in Aberdeen." This he wrote in 1859. In our day, however, it is certainly the less abundant of the two; and as far as I know not a single pair of Sea Eagles breeds within the bounds of "Dee," and even the bird itself must now be looked upon as a rare straggler.

In 1861 a Sea Eagle passed within twenty yards of the writer near the village of Tarland. It flew in a slow deliberate manner, thus affording an excellent view, its course being in a north-easterly direction. Three days afterwards a bird of the same kind was caught in a trap among the hills lying between Cromar and Strathdon, and brought to me alive. This was in all probability the one seen passing over Tarland, as the line of flight when observed by me would carry it to where the capture was effected.

"One in his first winter's plumage struck against the Girdleness Lighthouse during the night a few years ago." (Taylor, *Naturalist*, vol. iii., p. 139.) It was preserved by the late A. Mitchell, Castle Street, Aberdeen; but what became of it I have not learned.

In the *N. S. A.* for the parish of Aberdour, pp. 261 and 262, under the heading "Zoology," is the following: "At one period there was a pair of Eagles that regularly nested and brought forth their young in the rocks of Pennan; but according to the tradition of the country, when the late Earl of Aberdeen purchased the estate from the Bairds, the former proprietors, the Eagles disappeared in fulfilment of a prophecy by Thomas the Rhymer that *there should be an Eagle in the Crags while there was a Baird in Auchmedden;* but the most remarkable circumstance, and what certainly appears incredible, is that when Lord Haddo, eldest son of the Earl of Aberdeen, married Miss Christian Baird of New Byth, the

Eagles returned to the rocks, and remained until the estate passed into the hands of the Hon. William Gordon, when they again fled, and have never since been seen in the country. These facts, marvellous as they may appear, are attested by a crowd of living witnesses." We are sorry to cast doubt on such a prettily told tale, more especially so because it is believed in so faithfully in the district. As to whether or not Eagles bred on this rocky headland we will not presume to say; but we know that the birds seen to return by the many witnesses were merely Peregrine Falcons, and not Eagles; and the former have often to do duty for the "King of Birds" when superstitious notions require support.

Genus ASTUR, *Lacèpède.*

Astur palumbarius, *Linn.* Gos-Hawk.

"Very rare, and for a good many years not ascertained to have been seen at all. One was killed in the woods at Crathes in 1837." (Adams.) Edward mentions this species as having been shot and trapped near the Loch of Strathbeg —(*Naturalist*, vol. iv., p. 270). A female was killed at Forglen, the estate of Sir George Abercrombie, Bart., on December 23rd, 1875, and passed through my hands. On January 22nd, 1876, one was killed at Hazelhead, near Aberdeen, and is now in Aberdeen University Museum.

"In the more island parts of the middle division of Scotland, especially among the Grampians of Aberdeenshire, it may now and then be observed." (MacGillivray.) The same author, however, says in his *Natural History of Deeside*, p. 393: "I have no evidence of the occurrence of the Gos-Hawk, *Astur palumbarius*, in any part of Braemar of late years." Still we are told in *A Treatise upon Falconry*, published at Berwick-on-Tweed, in 1841, that the Gos-Hawk ["breeds upon the wooded banks of Dee"]; accordingly I think brackets are very necessary for the statement.

In *Cassell's Natural History*, vol. iii., p. 271, it is said: "The author was introduced to an old gamekeeper on the Marquis of Huntly's estate at Aboyne, who perfectly remembers the Gos-Hawk breeding regularly at Glen Tanner." This is an entire error. It must have been the Kite (*Milvus ictinus*) to which the keeper referred.

Genus ACCIPITER, *Brisson.*

Accipiter nisus, *Linn.* Sparrow-Hawk.

Abundant and resident, and, with the exception of the Kestrel, it is the most common of all the raptores we possess.

Genus MILVUS, *Cuvier.*

Milvus ictinus, *Savigny.* Kite. "Glead." "Glen Tanner Glead." "Red Glead." "Salmon-tailed Glead." "Fork-tailed Glead."

Referring to the association's list for the destruction of ravenous beasts and birds (*O. S. A.*, vol. xiv., pp. 348-9), we find it recorded that two thousand five hundred and twenty small Hawks and *Kites* were killed.

"Not very uncommon in the upper tracts. It nestles there in trees. Extremely rare to the east of Glen Muick." (MacGillivray). "One has been killed at Aberdour by Mr. Duncan, the Brucklay Castle keeper." (Horn.) "Very rare; I am not sure of having seen it more than once." (Mr. J. Wilson's MS. Journal.)

Within the past thirty-five years the Kite has become extremely scarce within "Dee," and it is now very doubtful if a single pair is to be found breeding within the district. In 1865, six were seen by Mr. A. Gill nailed to a door at Monaltrie, Ballater; and in 1867, I saw five with Mr. Brown, Micras, near Crathie, all locally-killed specimens. In the *Aberdeen Free Press* of December 13th, 1872, it is reported that a Kite was killed at Balmoral in July, 1871. About Braemar this bird has been occasionally observed by Mr. Thomson, keeper, Dachlash, up to 1890.

The tail feathers of the Kite were much in repute for the dressing of artificial flies; indeed few flies were considered equal to that made from the tail of the "Glen Tanner Glead" by Dee anglers, and to this fact, we presume, the extinction of the bird is in a great measure due; for that it is on the verge of extinction, if not actually so, is beyond question.

Milvus migrans, *Boddaert.* **Black Kite.**

One was shot by Mr. Jackson, Cornhill, within Aberdeen city boundary, on April 18th, 1901, and is now in that gentleman's possession.

Genus PERNIS, *Cuvier.*

Pernis apivorus, *Linn.* **Honey-Buzzard. "Bee-Hawk."**

"The Rev. J. M. Brown informs me that he once found a nest of the Honey-Buzzard in the woods of Abergeldie. It was built on a tree and resembled that of the Common Buzzard. There were three eggs of a whitish colour, spotted with light and dark brown. The male was shot. . . . . I am aware of two having been shot near Aberdeen." (MacGillivray.) "One was shot by Mr. Hyatt in the pleasure-grounds of Crimonmogate in September, 1864." (Horn.) One was shot on Deeside and sent for preservation to the late A. Mitchell, Aberdeen, September, 1865—(*Free Press*, January 8th, 1867).

At Ballogie, in 1867, a male and female were killed at their nest, which contained two eggs. These eggs were broken by the person who took them while he was carrying them home, and were cast away. The birds were sent to me. Their stomachs contained wasps and their larvæ, as also portions of the combs of the "wasps' nests."

In 1868, another of the same species was shot in the same wood. In the latter end of July, 1869, "one was seen every day for a fortnight" by George Sim, Fyvie, and again, in 1874, the same gentleman reports, in the *Scottish Naturalist*, vol. ii., p. 277, that "a specimen of this rare Falcon was frequently seen in this locality in February last."

In 1875, one was killed at Culter House by Mr. James Mutch, keeper. This was a young very dark coloured bird, and is still in Mr. Mutch's possession. On September 24th, 1890, a female was shot at Crimonmogate. The stomach contained dragon-flies, bees, and beetles; and one was trapped at Pitfour, where it was seen tearing up a bees' nest, in 1892. On July 3rd, 1893, a male was shot at Haddo House. Its stomach contained the remains of wasps. On September 21st, 1896, one was killed at Durris, and another

—a male—at Urie, on the 24th; all three were sent to the writer. One was shot by Mr. J. Mutch at Pitfour, 17th July, 1897, and is now in that gentleman's collection. A bird of the year was killed near the Home Farm of Kinmundy, September 15th, 1898, and sent for preservation to Mr. M'Boyle, Peterhead, in whose hands I saw it. One was shot at Port-Erroll, September 23rd; and another at Ardlethen, September 30th, 1901; and one was killed by Lord Carnegie at Crimonmogate, September 25th, 1902; all being sent to me. Another was killed at Fyvie, June 21st, 1902, and was preserved by Mr. George Sim, Fyvie.

Although nothing positive can be stated regarding the frequency of this species breeding in Scotland, it would seem from the foregoing that possibly it does so more often than is generally supposed. Yet there seems no doubt that the bird is most frequently seen and obtained during autumnal migration.

Genus HIEROFALCO, *Cuvier.*

Hierofalco islandus, *Gmelin.* Iceland Falcon.

Pennant states, in his *British Zoology*, vol. i., p. 218: "It inhabits the north of Scotland—our specimen was shot near Aberdeen." One was shot near Fraserburgh in March, 1871, by A. M. Ross, Esq., G.N.S. Rly. These are the only records within the confines of "Dee."

Genus FALCO, *Linn.*

Falco peregrinus, *Tunstall.* "Peregrine Falcon." "Hunting Hawk." "Blue Hawk." "Blue-sleeves."

This fine bird is doomed to early extinction, for wherever there is a keeper armed with a gun or capable of setting the barbarous pole-trap, there the Hunting Hawk is sure to meet with an untimely end; and indeed it is not the keeper alone whose hand is raised against it. Every "gunner" has his eye upon it, and no opportunity is allowed to slip where the sportsman (?) can bag a hawk, and thereby add additional lustre to his hunting achievements. Not a thought seems ever to rise in the minds of those people that there may after all be some use in these birds and that they ought to be

allowed to live, *i.e.*, that the "balance of nature" should not be overturned by man. No lesson, however severe, seems enough to cause such people to reflect upon their actions in this matter. The wide, prolonged, and irrepressible (in so far as man is concerned) ravages of field mice upon pasture lands, the equally destructive habits of the smaller song birds when allowed to multiply unduly, and the now almost chronic "grouse disease" does not appeal to those of Nimrodian proclivities. Seeing that rapacious birds can at least keep such scourges at the minimum, surely they ought to be allowed to fulfil their mission in nature. But no; "Hawks kill game" we are told, and that being so, "we shall continue to kill Hawks whatever is said to the contrary."

The Peregrine, although thus persecuted, still continues in "Dee." A few pairs breed along the sea cliffs and on some of the inaccessible "rock faces" amongst the mountains, and considering the struggle for existence which the bird has to uphold, it is no wonder that few of the sites that used to be tenanted by the Peregrine are any longer occupied; too soon, alas, the bird will have to be numbered amongst those that were.

Falco subbuteo, *Linn.* The Hobby.

This bird is very rarely seen along the Scottish east coast. Within "Dee" it was obtained first in 1863, when an immature specimen was brought to me. It had been caught by a fisherman while prosecuting his calling a few miles off Aberdeen. In the autumn of 1868, another was found dead near Kittybrewster railway station, Aberdeen. It was brought to the writer, and the same season one was shot on the Broad Hill, Aberdeen, by the late A. Mitchell, Castle Street, Aberdeen. In May, 1870, one was killed at Fraserburgh, and was in the possession of the same gentleman. Both these examples, along with many other ornithological rarities, got scattered before Mr. Mitchell's death, and now no one seems to know what became of them. On July 5th, 1870, one was shot near Fraserburgh, and sent to me; also one killed by Mr. J. Mutch, keeper, at Pitfour, July 15th, 1897, who very kindly presented it to me. One was killed at Aden, June 1st, 1898, and is now

in Mr. Mutch's possession, with whom I saw it. The statement made by Mr. Gray, that in "Glen Dye, county of Kincardine . . . . the Hobby has for some years been known to breed" requires confirmation.

Falco æsalon, *Tunstall.* Merlin.

"In spite of the active hostility of gamekeepers and sportsmen, it is still not very rarely to be seen, especially in the neighbourhood of woods." (Adams.) "Not many years back, far from scarce throughout spring and summer in hilly districts where I have found its nest, or rather eggs, on the ground. Now rare in spring and summer in almost every part of the county, but in autumn and winter there seems a considerable influx, as they are then about as numerous as any bird of prey, especially in the low open districts." (Mr. S. Burnett's MS.) I can fully bear out Mr. Burnett's remarks, but this autumnal influx is made up of immature birds—mature well-plumaged birds are by no means abundant.

It is generally understood that the Merlin forms its nest upon the ground, and this is usually the case; still it occasionally breeds in trees. Mr. John M'Bain, for many years head keeper to Lord Aberdeen, informed me that he shot a Merlin while on its nest in a tall tree. On 20th of May, 1898, a pair appropriated a Hooded Crow's old nest near the top of a tree at Pitfour, and the keeper, J. Mutch, shot the hen on the nest, as also the male as he came to where the nest was. I saw both birds with Mr. Mutch.

Falco vespertinus, *Linn.* Red-footed Falcon.

An extremely rare visitant. One was shot by Mr. Andrew Gill at Hill of Fiddes, parish of Foveran, in May, 1866. Mr. Gill brought the bird to me for preservation and identification, which, I stated at the time *(Aberdeen Herald)*, was the first, so far as I was aware, that had been obtained in Scotland.

The specimen in question was a female, weighing $4\frac{1}{4}$ ounces; length, $11\frac{1}{4}$ inches; and expanse of wings, $26\frac{3}{4}$ inches. Its stomach contained a mouse and two beetles. Thus the Foveran specimen stood the only one for Scotland until 1875, when one was shot in Ross-shire, and another in Caithness-

shire. Both were preserved by Mr. M'Leay, Inverness, in whose hands I saw them. On May 7th, 1897, a fine specimen was shot at Crimonmogate. Its stomach was filled with shrew mice.

Falco tinnunculus, *Linn.* Kestrel. Windhover.

Notwithstanding the persecution to which this species, in common with the other members of the Falconidæ, is subjected, it is the most common and abundant of all the Hawk tribe, and is at the same time the most useful. It is one of the farmer's best friends, for its food consists, in a very large measure, of mice, supplemented by beetles and moths. It is pretty evenly distributed over the whole district; but it is, perhaps, most abundant, at least at the breeding season, along the rock-bound coast of Kincardineshire. There it selects some of the many projections in the face of the perpendicular cliffs, upon which it constructs its rude nest, and brings forth its young in comparative security. While thus occupied, it is interesting to watch, especially at early dawn, the movements of the male as he drops noiselessly from the jutting rock and betakes himself to the adjoining fields, and to see him there hovering on almost motionless wings diligently searching the ground and suddenly swooping down on some hapless mouse, which is straightway conveyed to where the female sits. It is also interesting and instructive to see how frequently he returns to the nest, laden with spoil suited to the tender young.

Were those actions studied as they ought to be by the persecutors of this beautiful bird, it is surely not too much to expect that they would see the grievous mistake of their doings, and henceforth grant the Kestrel quiet and protection to carry out its beneficent purpose in the arrangement of nature.

Falco cenchris, *Naum.* Lesser Kestrel.

A female specimen of this pretty little Falcon was shot on the estate of Boyndlie, parish of Crimond, by the Rev. Elton Lee, on October 25th, 1897. Its stomach contained beetles, grubs, and insects' eggs. This, to my knowledge, is the first instance of the bird having been obtained in Scotland.

Genus PANDION, *Savigny.*

Pandion haliaëtus, *Linn.* **Osprey.**

A rare species of uncertain appearance within "Dee." One—a male—was sent to the writer by the late Sir Thomas Gladstone of Fasque, May 1st, 1867; another from Monymusk, June 21st; and a third—a female—from Peterhead, September 27th; all three in the same year. In May, 1881, a specimen was killed near Fraserburgh; and two during the same year were killed at Dunecht. In 1886, August 30th, one was forwarded to me by the late Sir Francis Grant, Bart., of Monymusk. On June 12th, 1889, a female was killed near Aberdeen, and also passed through my hands. On June 18th, 1890, one was killed at Haddo House; and one is in the collection at Brucklay Castle. One was shot by the gamekeeper at Knockespock, parish of Tullynessle, May 22nd, 1899.

Although fish is the usual food of the Osprey, it does not disdain such fare as the humble beetle and similar "creeping things," as the contents of the stomachs of the abovementioned examples testify. This species has not been known to breed within "Dee," although it does so sparingly in the adjoining district of "Moray."

A male was shot at the Loch of Strathbeg, September 15th, 1902, and is in the possession of Mr. J. Hay, Aberdeen.

Order STEGANOPODES.

Family PELECANIDÆ.

Genus PHALACROCORAX, *Brisson.*

Phalacrocorax carbo, *Linn.* **Cormorant.**

This species, a common one all along the coast of "Dee," breeds sparingly on the rocks there, and finds ample food amongst the shoals of fish that swim through the adjoining sea. At times this voracious feeder seems to want a change of scene and food, and betakes itself to the rivers

and inland lochs, where the savoury trout forms its chief aliment. But on such expeditions it not infrequently leaves its native marine habitat never to return, for in the rivers and lochs it is looked upon as a poacher, and pays the penalty with its life at the hands of some sportsman or keeper.

Phalacrocorax graculus, *Linn.* **Shag. Green Shag.**

The Shag cannot be accounted a common bird along the coasts of "Dee," and, strangely enough, in the list of the "Birds of Strathbeg," by the late Thomas Edward, the Shag does not appear, and the same observation applies to the *Birds of Buchan*, by Mr. W. Horn. Coming to 1895, it is stated by the Rev. W. Serle, in his *Avi-Fauna of Buchan*, p. 18, that the bird is "common, and breeds about Pennan and the Cruden coast." The present writer has traversed the coasts of "Dee" time after time, but he has not been able to verify the above statement; indeed, he has not seen a Shag there during the breeding season.

Genus SULA, *Brisson.*

Sula bassana, *Linn.* **Gannet. "Solan Goose."**

The nearest breeding station of the Gannet to "Dee" is the Bass Rock, in the Firth of Forth, where the bird congregates in many hundreds. Thence it spreads out along the north-east coast in pursuit of the herring, which constitute its chief article of food. Thus it not infrequently happens that the bird gets entangled in the meshes of the herring-fisher's net, and is by that worthy "made fast with a piece of tarry rope," and brought to land as a "queer beast;" and certainly by the time it flops about amongst herring scales, tar, and other dirt, it does look somewhat queer, although of not much value to the ornithologist.

When the breeding season is over, the Gannet may be seen for some weeks along the coast of "Dee," sailing aloft in airy circles, and ever and anon descending with fearless plunge into the surging sea, generally securing some hapless fish.

Order HERODIONES.

Family ARDEIDÆ.

Genus ARDEA, *Brisson.*

Ardea cinerea, *Linn.* Common Heron.

Although still abundant throughout "Dee," it is yearly becoming less so; many places where the Heron used to breed have been deserted, while in those it still frequents the number of nests continues to diminish. The cause of this in some cases is not apparent; in others, however, there is no difficulty in the matter. In Aberdeen there is a band of egg-gatherers who range over the country, and the eggs of no bird, wild or domestic, are safe from them. Thus within the past few years the Heron has built in small numbers in the woods of Parkhill, but not a single egg was allowed to be hatched; and now that bicycles are in the hands of most people, the country is scoured far and wide by those "egg-collectors," who find a ready market for their ill-gotten spoil with dealers in the south.

Ardea purpurea, *Linn.* Purple Heron.

A specimen of this species is reported in the *Zoologist*, p. 2497 (1849), by the Rev. J. Smith, as having been shot in the parish of Monquhitter in 1847. I am informed by Mr. W. M'Boyle, of Peterhead, that "the bird was shot by Mr. George Clark, farmer's son, Forvie. The bird was sent to James Forsyth, policeman, Pitsligo, for preservation. He allowed it to go to decay, and Mr. Smith identified the bird from its feathers. The bird was killed in autumn."

It will be seen that the foregoing differs considerably from what is said concerning the capture in MacGillivray's *British Birds*, vol. iv., p. 457, wherein it is stated that the bird was killed in March, 1847; but as Mr. M'Boyle was acquainted with the young man who shot the bird, and knew all the circumstances at the time, and is himself a keen and accurate ornithologist, I am inclined to accept his statement as the more reliable.

One was shot near Don-mouth, October 29th, 1872, and is now in Aberdeen University Museum.

[**Ardea alba,** *Linn.* **Great White Heron.**

"A White Heron, supposed to be an Egret, was observed on the west side of the Loch of Strathbeg in the spring of 1816. It was seen for several days to frequent the same spot, but on being fired at once or twice it left and did not return." (Edward, *Naturalist*, vol. iv., p. 243.)]

Genus NYCTICORAX, *Stephens.*

Nycticorax griseus, *Linn.* **Night Heron.**

"One was shot at Mennie, eight miles from Aberdeen, January, 1865, and was in the possession of the late James Buchan, Esq. of Auchmacoy." (Taylor's MS.)

Genus BOTAURUS, *Stephens.*

Botaurus minuta, *Linn.* **Little Bittern.**

On October 21st, 1866, a specimen of this rare bird flew on board the vessel "Ellen of Dysart" in company with a Water-Rail while the vessel was entering the port of Aberdeen, and was presented to me by Mr. Thomson, the master and owner of the ship. The stomach of the bird contained fragments of beetles.

Mr. Gray records one as having been shot by Mr. A. Bowie on the 28th May, 1868, "at the junction of the Don and the Ury below Keith-hall." The same writer also mentions that "an immature male was shot on a marsh near Fintray House on 23rd September, 1868."

Botaurus stellaris, *Linn.* **Common Bittern.**
"Mire Drum."

Although this bird has got the name of "Common Bittern," it has now become one of our most uncommon birds. Considering the number of inland lochs, fringed as most of them were with broad belts of marsh, covered with rank vegetation such as the Bittern loves, there can be no

doubt but that this bird was in the past abundant and resident; still although most of the old Aberdeenshire lochs that do not now exist are spoken of in the *O. S. A.*, no mention is made by the various writers of that work of the Bittern being a frequenter or even of its having been seen about such places. This, however, does not prove that the bird was not there, nor even that it was uncommon, for although each writer professes to give the "Zoology" of his parish, it is generally done in such a slip-shod fashion that it is evident he neither knew nor cared much about the matter, and would pass it over thus: "The fowls are Eagles, Hawks of different kinds, Kites, Black Cock, Grouse or Moorfowl, and Ptarmigan, *besides every other species common in the Highlands of Scotland*," but the unfortunate thing is that none of them gives a reliable list of what was "common in the Highlands;" and, indeed, the "Zoology" of the *N. S. A.* is equally fragmentary and unsatisfactory, for throughout the whole of that portion of the work relative to Aberdeenshire it is only mentioned for the parish of Crimond that "the Bittern has been occasionally seen;" while for the parish of Longside we are told that "Bitterns and other birds of passage visit us in their season."

This paucity of information notwithstanding, we are justified in saying that the Bittern is much less common throughout "Dee" at the present time than it had been when there was double the amount of ground suitable to its wants than there is now; to which may be added the fact that to those of the last generation the name of the "Mire Drum" was well known and perfectly understood.

"A very nice specimen of the Bittern or Mire Drum *(A. stellaris)* was shot in the autumn of 1824 by one of Mr. Gordon's of Cairness gamekeepers." (Edward, *Naturalist*, vol. iv., p. 243.) "Rarely seen in the district, but one was shot six or eight years ago [about 1852 or 1853] on the estate of Leys." (Adams.) A male was killed by James Allan, Esq. of Templand, Auchterless, on 20th December, 1867, who sent it to me. It weighed 2¼ lbs., and the stomach contained a number of water beetles, *i.e.*, *D. marginalis*. One is reported in the *Banffshire Journal*, January 11th, 1871, by T. Edward, as having been killed at Cuminestown, parish of Monquhitter. One was taken alive beside Pitfour on 6th April, 1888. It was

a female in a very weak condition, and is said to have vomited a frog when caught. The bird was preserved by Mr. M'Boyle, Peterhead, from whom I received my information. On September 3rd, 1889, an immature female was shot at the Loch of Strathbeg, and is now in the possession of Mr. Gordon of Cairness. Its weight was 2 lbs. 4½ ounces, and its stomach contained the vertebrae of a fish and several balls of hair. One was shot near New Deer in 1896, as I am informed by Mr. J. Campbell, Bonnykelly Lodge. Another was caught by Mr. Alexander Gordon, Waulkmill, Cuminestown, who sent it for preservation to Mr. Lemon, Banff. One was killed on Scotston Moor in 1899, and is now in Aberdeen University Museum.

[**Botaurus lentiginosus,** *Montague.* **The American Bittern.**

"A specimen of this species was shot by Col. William Fraser in November, 1854, near the Toll-bar at the Bridge of Don." (Gray.)]

Family CICONIIDAE.

Genus CICONIA, *Brisson.*

Ciconia alba, *Bechstein.* White Stork.

"The Rev. Mr. Smith, Monquhitter, informs me that during the unusually severe winter of 1837-38, a specimen of this rare bird was shot in a moss in the upper part of the parish of Lonmay. It was nailed to a barn-door where it speedily went to decay. The people who obtained it compared its red legs to Turkey leather." (MacGillivray.)

Family PLATALEIDÆ.

Genus PLATALEA, *Linn.*

Platalea leucorodia, *Linn.* Spoonbill.

The first notice of this bird having occurred in "Dee," and that a very feeble one, is a statement by T. Edward in the *Naturalist*, vol., iv., p. 243, wherein he says: "Has twice or thrice been observed;" but gives no information who the observer was nor how he (Edward) came by the information.

The late A. Mitchell informed me that he shot a Spoonbill upon Aberdeen Links, but he could not give the precise year.

Genus PLEGADIS, *Kaup.*

Plegadis falcinellus, *Linn.* **Glossy Ibis.**

"About fifteen years ago one was shot on the moors of Crathes." (Adams.) This would place the occurrence about 1844. Thus the matter stood until 1880, when, on the 4th of October, a male in fine condition was shot on the mud flats at Ythan-mouth by Mr. Moir of Tarty, in whose possession it still is. On October 22nd, 1902, one was reported in the *Aberdeen Weekly Journal* as having been shot at the Loch of Strathbeg by Mr. Fraser, gamekeeper, Cairness, who sent it to Mr. Watters, Aboyne, for preservation.

Order ANSERES.

Family ANATIDÆ.

Genus CHENALOPEX, *Stephens.*

Chenalopex ægyptiacus, *Linn.* **Egyptian Goose.**

A female was shot at Garvock, Laurencekirk, on December 14th, 1893. It was in fine condition, and had no marks of having been at any time in confinement; still, as this species is often kept in ornamental waters, there is the possibility of the specimen here referred to having wandered from some private reserve. Edward, in his "Birds of Strathbeg," *Naturalist*, vol. iv., p. 241, mentions a bird of this species as having taken up its abode in the pond belonging to the Rev. Mr. Boyd of Crimond, in 1853, and continuing there for about two months.

Genus ANSER, *Brisson.*

Anser cinereus, *Meyer.* **Gray Lag Goose.**

There is much uncertainty regarding this species, and it is to be feared that when the Gray Lag is spoken of, it is really

the Bean Goose that is referred to. That the Gray Lag is very uncommon I am inclined to think, for in the course of forty years only one has come to hand. Still this species may have occurred within "Dee," for MacGillivray says: "In the end of September, 1843, I inspected three specimens from Deeside in the Aberdeen Market." (*British Birds*, vol. iv., p. 593.) This statement cannot, however, be taken as altogether conclusive. The mere fact of seeing them in Aberdeen Market does not prove that they had been killed on Deeside.

Anser segetum, *Gmelin.* Bean Goose.

This species is a regular visitor to the Loch of Strathbeg and other sheets of water within "Dee;" but, owing to their extreme watchfulness, very few are obtained. When the period of migration comes round, the cry of the Geese is to be heard as they soar above in flocks, their time of flight being generally in the evening, at which period the deep guttural notes of the leading gander, as the flock wings its flight in ever-changing figures, is always recognisable, even when the light has given place to the darkening gloaming and the birds can be no longer seen. During the months of September and October, such flocks are to be seen or heard as they pass southwards over Aberdeen, and again, less frequently, in the spring. This species is not known to breed with us.

Anser brachyrhynchus, *Baillon.* Pink-footed Goose.

Edward, in his "Birds of Strathbeg," *Naturalist*, vol. iv., p. 240, reports a fine bird as having been killed there in the spring of 1843, "which was supposed to be the Pink-footed Goose."

The Rev. W. Serle says it is reported that the bird under consideration "has been shot at Peterhead quite recently." "It occurs in winter in suitable localities along the eastern side of Scotland." (Yarrell.)

In the last week of March, 1896, a male was killed at Udny, and sent to me, and a few days later three others were obtained at the same place; the latter, however, I did not see, and the sex was not ascertained. For a short time

previously small flocks of Geese had been observed passing Aberdeen to the northward. As those obtained formed part of several hundreds that haunted a particular field at Udny for some days, it may be inferred that they were all of one species. The male above alluded to is now at Udny Castle.

Anser albifrons, *Scopoli.* **White-fronted Goose.**

This is by no means a common species in "Dee." Edward records it from Strathbeg, and, during the autumnal migration, it has on several occasions come into my hands.

Genus BERNICLA, *Boie.*

Bernicla brenta, *Pallas.* **Brent Goose.**

Occasionally obtained throughout "Dee," but is not common. On January 21st, 1892, an immature bird was caught on Aberdeen Beach, and brought to me.

Edward, in his "Birds of Strathbeg," says: "This is, I believe, the most abundant of all this genus which visit the Loch." (?)

Bernicla leucopsis, *Bechstein.* **Barnacle Goose.**

This graceful bird occurs pretty frequently throughout "Dee," especially along the coast. I have had them on several occasions from the river Don, always in autumn, and invariably killed near the mouth of the river. They are also occasionally to be seen in our gamedealers' shops. Edward records it from Strathbeg. "On the east of Scotland, I have seen a few individuals shot at Peterhead and Aberdeen." (MacGillivray.)

Bernicla canadensis, *Linn.* **Canada Goose.**

On August 24th, 1883, two were shot from a flock of seven, near the Loch of Strathbeg, by James H. Crichton, Esq. of Inverugie, and sent to me. Edward records, in the paper already frequently quoted, what was supposed to be a Canada Goose having been killed at Strathbeg "in the winter of 1819."

Genus CYGNUS, *Bech.*

Cygnus olor, *Gmelin.* Mute Swan.

This bird is kept on many ornamental waters throughout "Dee," and is in a semi-wild state on the Loch of Strathbeg, upon the islands of which it builds its nest and brings forth its young.

[Cygnus immutabilis, *Yarrell.* Polish Swan.

There is no record, so far as I know, of this species having been identified as a visitor to "Dee," except the somewhat misty statement of Edward. Speaking of the Loch of Strathbeg, he says: "Only two species have as yet been distinguished, namely, the beautiful White Hooper *(Cygnus ferus)* and the no less fair and elegant Polish Swan *(C. immutabilis)*, the latter, however, said to be of rare occurrence. I am only aware of two specimens which have been obtained—the one in 1814, and the other in 1826." *(Naturalist*, vol. iv., p. 240.)]

Cygnus musicus, *Bechstein.* Whooping or Whistling Swan.

The Whooper is occasionally found over various parts of "Dee." I have seen it upon the lochs of Kinord, Davan, and Drum, and more frequently upon the Loch of Strathbeg, where over a dozen have been observed at one time, and from which place the bird has been sent to me. The late Mr. Gordon of Cairness informed me that fourteen wild Swans had been on Strathbeg most of the month of July, 1866; and in the spring of 1889 Mr. Crighton of Inverugie saw over one hundred and thirty Swans upon the same sheet of water. In 1865 one was killed upon the Corby Loch, a few miles to the north of Aberdeen, and two in 1900, by Mr. Robb. Another was shot at Black-dog, in 1901, by Mr. A. Duncan. A flock of nine was seen flying towards the Loch of Skene by Mr. Charles Rannie, Tertowie, in February, 1899. "One hundred and seventy have been counted all at once on Strathbeg Loch." (Serle.)

Although a regular visitor to "Dee," it is so chiefly in winter, and has not been known to breed there; still, they sometimes remain pretty late in spring with us. On 26th May, 1893, I saw three upon the river Ythan; but they would

not allow a near approach, and in rising from the water they winged their way northward.

Genus TADORNA, *Fleming.*

Tadorna cornuta, *Gmelin.* Common Sheldrake. "Annet."

This is a regular visitor, remaining to breed with us, which it does on the sandy links that abound along the coast between the river Don and the bay of Collieston, their chief station being the links of Forvie. This is a desolate tract of many hundred acres in extent, in many places covered with sand without a blade of vegetation; the sand is blown into high circular hummocks, subject to be shifted at every change of wind. At other points, these sand dunes are covered with bent, whin, and heath, and again the ground widens out into flat marshy patches of considerable extent. In the heath-covered dunes, rabbits make their burrows; and in such of those as are disused by the conies, the Sheldrakes make their nests, which are wholly composed of down plucked from their own bodies. These nests are found to be placed in the burrows some ten feet from the entrance, but never at the extreme end.

When the infant day has just awakened, and the sun has not yet shown his form in the glowing east, no more pleasant or beautiful sight can be wished for when one wanders through this solitary region, than to see these birds wing their bold flight in flocks of a score or more as they come from the muddy shores of the adjacent Ythan where they have been feeding, and break off in pairs to their various nesting-places. Under such circumstances, should their suspicions be aroused, they keep in flocks and wheel in wide circles for a time, and then alight; after which they will walk in sedate and stately step towards their nests in hopes of reaching them without being observed. Should they fail in this, they again unite in bands and fly many miles away, returning to alight on some of the marshy ground where they can watch the enemy without his having the chance of coming within gunshot.

When the young are hatched, they are guided to the river

and its broad mud flats; there they remain until their plumage is sufficiently developed for flight, after which they depart with their parents and remain mostly at sea during winter.

"Sometimes to be seen upon the Dee during severe weather." (Adams.) "This pretty bird is only a winter visitor with us." (Smiles's *Life of a Scottish Naturalist*, p. 412.) In the *O. S. A.* this species is claimed as being one of the birds common to the parish of Birse, an evident mistake, for there are few places less suited to its wants.

Tadorna casarca, *Linn.* **Ruddy Sheldrake.**

One was shot at Haddo House in 1893. It is now in the Estates Museum there. A second specimen was shot about the same time and place by Mr. J. Wilson, Methlick, and is now in his collection.

Genus MARECA, *Stephens.*

Mareca penelope, *Linn.* **Wigeon.**

This is one of the most common winter ducks we have, and is to be seen in the estuaries of all our streams, as well as in the inland lochs. It is not known to breed within "Dee."

Genus DAFILA, *Stephens.*

Dafila acuta, *Linn.* **Pintail.**

Rare. "One was shot by A. Mitchell at Aberdeen." (Taylor's MS.) Occasionally seen on the lakes at Haddo House, as I am informed by Mr. J. Wilson, in whose possession is one he obtained there.

An immature male was shot by Mr. Findlay, gamekeeper to Lord Carnegie, Crimonmogate, September, 1896, and is now in his lordship's possession. A male was shot by Mr. Tait, Inverurie, at Uppermill, Kintore, in the second week of August, 1899. On December 20th, 1899, another—an immature male—was shot by Mr. M'Lean of Littlewood on the Don. All three passed through my hands.

Genus ANAS, *Brisson.*

Anas boscas, *Linn.* Wild Duck. "Mallard." "Moss Duck."

A common resident species; to be seen in numbers on all our lochs and streams. Around these, and indeed in every marsh or peat moss where rushes grow, the wild duck may be observed or its nest found. The nesting habits of this bird are curious. It may build on a tuft of rushes near the side of a stream or loch, in a tree, or in the face of a rocky cliff, or high up on some hill-side where no water is near. A favourite place for the Wild Duck's nest at one time was Craig Horror on the Ythan, near the Old Castle of Gight. This is a bold rock of considerable height, but now so much changed that the "Moss Duck" would not now have the security she once had in this secluded spot.

Genus CHAULELASMUS, *Gray.*

Chaulelasmus streperus, *Linn.* Gadwall.

This species I have never had the pleasure of seeing in "Dee." Gray says it has been killed "in Aberdeenshire," but mentions no authority nor in what district of that county the occurrence took place, nor when. Mention is made in the *Zoologist* of one having been killed "on the Deveron by Dr. Leslie in the winter of 1837-38," and to this statement it is possible Gray refers. Four were killed at the lakes of Pitfour, October 22nd, 1898, as I am informed by Mr. J. Mutch, gamekeeper.

Genus QUERQUEDULA, *Stephens.*

Querquedula circia, *Linn.* Garganey.

To my knowledge, there is but one record of this species having ever been seen in "Dee," except what is said by Edward in the *Naturalist*, vol. iv., p. 242, where he remarks: "On a boating excursion in the summer of 1850 (Loch of Strathbeg) . . . . we met with a party of three, which we pursued," but they would "not allow us to approach near within gunshot." Seeing that he was not "near within

gunshot" of them, it does not seem quite clear that the identification could have been very accurately made. Under these circumstances, it is necessary to take such statements with a considerable amount of reserve.

Mr. Mutch informed me that seven of this species were shot at Pitfour, October 22nd, 1898.

Querquedula crecca, *Linn.* Common Teal.

This beautiful little Duck is common and resident with us, and is to be found in most of the places frequented by the Mallard. It breeds about all our lochs, and in many of the peat bogs throughout the district.

Genus SPATULA, *Boie.*

Spatula clypeata, *Linn.* Shoveller.

"In Scotland no authentic instance of its occurrence at any season has come to my knowledge." (MacGillivray.) Subsequent to MacGillivray's observations, the Shoveller has made its appearance in "Dee."

Not a common species with us, but is increasing. One was shot by Mr. Davidson, Seaton House, in the dam near the Bridge of Don in 1856, and four more are reported in Gray's *Birds of the West of Scotland* as having been seen by Mr. Angus at the same place, two of which he shot. One was shot in the lake at Haddo House, in 1866, by Mr. John Wilson, and one was shot at Uppermill by A. Tait, Esq., Inverurie.

This species bred in the Loch of Slains for several seasons, at which place they have been seen by Mr. Ramsay, keeper there, all the year round. At the same place, an old one and two young were shot by the late Mr. P. Chalmers, advocate, Aberdeen, who sent them to me. Edward, in his article "Birds of Strathbeg," *Naturalist*, vol. iv., p. 242, says it "has occurred" there. "One was shot at Gourdas in July, 1880," and "has been taken at Fraserburgh and Pitsligo." (Serle.)

I saw an immature specimen in the shop of Mr. Brown, gamedealer, Aberdeen, which was shot at Strathbeg, September 9th, 1896. Two young were shot at Castle Forbes, August 2nd, 1897; and one, also young, at Uppermill, near

Inverurie, about the same date. A male was shot by Mr. Hills at the Loch of Strathbeg, March 2nd, 1898. The two last were seen by me.

Genus FULIGULA, *Stephens.*

Fuligula cristata, *Leach.* Tufted Duck.

"When the fresh waters are frozen, it betakes itself to the sea, like all the other species, and subsists chiefly on bivalve mollusca. Even during open weather it is often seen in the shallow bays, and especially in estuaries. Montagu states that it is often shot on Slapton Ley, in South Devon, a large piece of water close to the sea. From thence northwards, on both sides of the island, it is not uncommon until beyond the Firths of Clyde and Tay, when it becomes of less frequent occurrence." (MacGillivray.)

"The Scaup, the Tufted, Red-headed Pochard, as also the Golden-eyed Garrot, *are all met with.*" (Edward, *Naturalist*, vol. iv., p. 242.) This statement would seem to indicate that all the above-mentioned Ducks were not uncommon; but coming down to 1876, referring to Smiles's *Life of Edward*, at p. 414, we are informed that the Tufted Duck is "very rare." "Occasionally seen on the Ythan and Fyvie Loch; one was shot at the Reservoir, Peterhead, last January." (Serle.)

Within the past twenty years the Tufted Duck has increased very much in "Dee," and is now a resident. It was first observed to be a breeding species within our area by William Evans, Esq., who found its nest at the Loch of Drum in 1887. Since then it has become quite a common breeding species, and may be seen in numbers in the Lochs of Drum and Skene. On the latter it has bred since 1884. By the kind invitation of the late Mr. Hamilton of Skene, I spent a day or two at his hospitable mansion, in August, 1890. On this occasion, we sailed over and over the Loch of Skene, and saw numbers of Tufted Ducks, with their tiny black young, floating buoyantly upon the water. Each female had a brood of from three to six, and all seemed quite at ease, allowing us to approach within a few yards of them before the young dived, to reappear some yards distant, where they again came together to skim over the water, picking up organisms

so small that only keen eyes such as theirs could see. When the breeding season is over, and the young able to take care of themselves, most of the birds leave the lochs for a time and take to the sea, estuaries, and rivers, where they remain during winter.

This species has been observed by Mr. George Muirhead on the lakes at Haddo House, and was known by him to have bred there in 1894 and 1895, as recorded by Mr. Harvie-Brown in the *Annals of Scottish Natural History* for January, 1896, p. 18. "A pair built their nest by the pond at Pitfour in 1897, and a male was killed there in 1898." (J. Mutch.) They also bred at the Corby Loch, near Aberdeen, in 1897 and 1898; the nest was found in both seasons by Mr. Alex. Kelly, Aberdeen, and the birds were seen there by Mr. James Simpson, also of Aberdeen.

Fuligula marila, *Linn.* Scaup.

A common winter visitor, some seasons appearing in large numbers; none, however, are known to remain through the summer.

Fuligula ferina, *Linn.* Pochard. "Red-headed Pochard." "Dun-bird."

An abundant species, arriving early in autumn and remaining during winter. I have seen it in hundreds in the Lochs of Skene and Strathbeg, but it is not known ever to have bred within "Dee."

Genus NYROCA, *Fleming.*

[Nyroca ferruginea, *Gmelin.* White-eyed Duck.

With his usual ambiguity, Edward says this species has "occurred" at the Loch of Strathbeg — (*Naturalist*, vol. iv., p. 242).]

Genus CLANGULA, *Boie.*

Clangula glaucion, *Linn.* Goldeneye.

One of our most common winter ducks, frequenting lochs, rivers, and estuaries in great numbers.

[Clangula albeola, *Linn.* Buffel-headed Duck.

Gray says: "The late Mr. Yarrell, in his *History of British Birds*, mentions that Mr. Mumery, curator of the Museum of Natural History at Margate, sent him word of a specimen of this Duck having been obtained in Orkney by himself in 1841. I had long looked upon this record as the only instance of the bird's occurrence north of the Tweed, until Mr. Angus showed me a beautiful male which was shot on the Loch of Loirston, Aberdeenshire, in January, 1865. A few days later Mr. Edward, of Banff, showed me a specimen—also a male—which had been shot many years ago in the Loch of Strathbeg, and placed in the Banff Museum by the late Mr. Smith, minister of Monquhitter."]

It seems strange that Edward makes no mention of this bird in his list of the "Birds of Strathbeg;" nor does it find a place in the list supplied by him in Smiles's *Life of a Scottish Naturalist*. It may just be as well to say here that the Loch of Loirston, where the above-mentioned specimen is said to have been killed, is in Kincardineshire.

Genus COSMONETTA, *Kaup.*

Cosmonetta histrionica, *Linn.* Harlequin Duck.

The late Col. W. Ross King frequently told me that he shot a Harlequin in Aberdeenshire. He also records the fact in his handsome volume *The Sportsman and Naturalist in Canada*, p. 231. This occurred in Buchan in 1858, and when we take into account Col. King's extensive and accurate acquaintance with our feathered tribes, there can be no doubt that what he stated is in exact accordance with fact. It is unfortunate that the same cannot be said regarding Edward's observations relative to this bird. In his paper on the "Birds of Strathbeg," already frequently quoted, he says: "It is only a few winters since a most beautiful specimen of the Harlequin was shot there by a rabbit-catcher, who, I believe, for the sake of a very paltry sum more than he was offered on the spot, sent it . . . . away south."

In the month of April, 1890, Mr. Mutch, gamekeeper, saw, on the lake at Pitfour, a specimen of the Harlequin.

Genus HARELDA, *Stephens.*

Harelda glacialis, *Linn.* **Long-tailed Duck. "Hareld Duck." "Northern Hareld." "Caloo Duck." "Coal-and-Candle-light."**

This beautiful bird is a regular winter visitor, frequenting most of the river estuaries and fresh water lochs along our line of coast, and occasionally making excursions to more inland waters. It is frequently seen upon the lakes around Haddo House, and has been several times shot on the Don at Inverurie by the late T. S. Tait, who sent specimens to me. One was also shot by Mr. J. Milne, jun., on the Don at Kinaldie, on November, 1880, and another was seen by Dr. Tait on the Don at Inverurie, in November, 1887. The bird has also been observed by the late Mr. T. E. Buckley on the Ness, near the islands at Inverness; so the statement that this species does not go inland is untenable.

Genus SOMATERIA, *Boie.*

Somateria mollissima, *Linn.* **Eider Duck. "St. Cuthbert's Duck." "Annet." "Dunter Duck."**

Common, especially about the mouth of the Ythan, where, among the bent-covered sand dunes on the north side of that stream, it breeds abundantly. It also breeds upon the Links of Mennie, a few miles to the south of the Ythan, and on June 6th, 1891, Prof. J. W. Trail found a nest of this species, containing six eggs, near Garron Point, Kincardineshire. When the period of nidification is past, young and old may be seen feeding in the Ythan or resting upon its muddy banks; but they soon take to sea and generally remain there during winter. It is not known to visit other parts of "Dee," except that it is "sometimes common off the mouth of the Ugie, and a few breed about Longhaven." (Serle.)

Genus ŒDEMIA, *Fleming.*

Œdemia nigra, *Linn.* **Common Scoter.**

A fairly common species along the whole coast line of "Dee," where it confines itself to sea, rarely coming into

river mouths. It is not known to breed within the confines of our district.

Œdemia fusca, *Linn.* Velvet Scoter.

Like the foregoing, this is a purely oceanic form that does not visit us in great numbers, and only does so in winter.

Genus MERGUS, *Linn.*

Mergus merganser, *Linn.* Goosander. "Saw-bill."

This is a regular winter visitor, and is to be seen about the lochs and rivers throughout "Dee." It has not been known to breed within the district, although it has done so a little beyond our northern boundary.

Mergus serrator, *Linn.* Red-breasted Merganser.

Like the preceding, a winter visitor with us, but in much smaller numbers.

[Mergus cucullatus, *Linn.* Hooded Merganser.

In the list of birds given in Smiles's *Life of a Scottish Naturalist*, p. 414, Edward says: "I was told by an old gunner and bird-stuffer that he had shot a specimen of this species, but I cannot vouch for its accuracy."

"Very rare visitant; one in Banff Museum, shot at Strathbeg." (Serle.) It seems strange that if the specimen here referred to was killed at Strathbeg, Edward takes no notice of it, seeing he was for so many years caretaker of Banff Museum. Beyond the above, there is no evidence, so far as I know, of the Hooded Merganser ever having occurred in "Dee."]

Mergus albellus, *Linn.* Smew.

This beautiful bird is not common with us, and has to be recorded as a winter straggler. Edward says: ["A specimen, either of the Smew or White-headed Duck *(Mergus albellus)* or Hooded Merganser *(M. cucullatus)*, was killed in the winter of 1821; but, unfortunately, it was destroyed by a dog. From the description given, I have no doubt it was a Smew."]

In 1864 one was killed upon the Ythan, and was in the collection of the late James Forsyth, police constable there. In 1877 a female was killed on the Don, beside Waterton, by Mr. F. Logie Pirie's keeper. On January 19th, 1890, a male of the first year was killed on the lake at Brucklay Castle; and on February 20th, 1892, a female was shot by Lord Carnegie on the Loch of Strathbeg. Again, on January 16th, 1894, a female was shot on the Don, near Fintray. This and the three foregoing specimens were sent to me. Their stomachs contained water insects, mollusca, sticklebacks, and bits of quartz. Mr. John Wilson, Methlick, has a fine male specimen in his collection, which was killed in his neighbourhood.

Order COLUMBÆ.

Family COLUMBIDÆ.

Genus COLUMBA, *Linn.*

Columba palumbus, *Linn.* **"Wood Pigeon." "Ring-Dove." "Cushat." "Cushie Doo."**

Generally distributed, and in great abundance. Go where one may throughout "Dee," where forest or birch scrubs exist, one is sure to hear and see the Cushat. Away in the lonely glen, where but few, if any, habitations exist, the writer has, at the close of some happily spent day, rolled in his plaid, laid himself amongst scented birch and waving bracken, where he was lulled into sleep and pleasant slumber by the soft cooing of the Cushat, mingled with the plaintive wail of the Plover, and the wildly-weird summer cry of the wary "Whaup," to be awakened at early morn by the first coo-roo-coo-coo of his favourite bird and the distant grouse-cock's morning call.

Only those who have undergone such experiences can imagine half the pleasure that attends such rambles; and now, in the evening of his days, the writer can look back upon the drama of his humble life and see every here and there, standing out in bold relief, the Ring-Dove arrayed in nuptial raiment, ever and anon uttering his soft and soothing call. Away in the wooded banks of the sluggish Don, in the dark

pine woods of Mar, near the "infant rills of Highland Dee," the wide expanse of Ballochbuie Forest, the "birken shaws" of lone Glen Muick, the wild wooded slopes of deep Glen Tanner, or the less wild, but not less fair, banks of Cowie Water—on all these, and many others, has he made acquaintance with the Cushat under happy circumstances. Long may this gem of our woods and wilds be allowed to live in health and peace. Yet, somehow, it seems as if such a wish were not to be realised, for in some seasons we have seen the Ring-Dove lying in hundreds throughout the woods, the victims of some epidemic—many dead, others in the last stages of the fell disease. This is caused by a fungoid-like growth in the throat, by which the poor birds are ultimately choked. What is the real nature of the disease, or what its cause, I am unable to say.

Columba œnas, *Linn.* Stock-Dove.

Until within the past twelve years this bird was not known in "Dee." About that time it was observed on the Links of St. Fergus, where it has since continued to breed, its nesting-quarters being in disused rabbit-holes. It is yearly increasing, and has now extended its range to the Links of Mennie and to the "back bar," a stretch of sand dunes that lies between the Loch of Strathbeg and the sea. Although now a regular breeding species, it does not remain with us during winter. After the duties of incubation are over, it spreads over the country, feeding upon the stubble fields, and in autumn departs to be seen no more until the following spring.

Columba livia, *Bonnaterre.* Rock-Dove.

The Rock-Dove is a regular and constant resident in the rocky caverns along the coast of Kincardine and Aberdeen shires, on the ledges of which it builds its nest and brings forth its young. It has, especially along the Kincardine coast, freely interbred with the domestic pigeon, with the result that many of the specimens there are not the usual colour, but are splashed in many parts of the body and wings with white. Still, many of the real livia are to be seen there, and of late years they are increasing. It is only along the coast line that this species can be seen with us.

In 1886, Mr. William Wilson, jun., Hillock, Terpersie, Tullynessle, reported to Colonel H. M. Drummond Hay that the Rock-Dove "is permanently resident on the rocks along the sides of the rivulets on the Coreen Hills, Central Aberdeenshire;" and at the meeting of the East of Scotland Union of Naturalists' Societies, held at Perth, 1887, Mr. Wilson gave a paper on the same subject (pp. 23 and 24 of the "Proceedings"), repeating that the bird "nested beside the rivulets of the Coreen Hills." Being anxious to make sure of the correctness of this statement, I made a journey to Terpersie and Coreen Hills in June, 1890, and there met Mr. Wilson, in company with whom both the glens in which the Rock-Dove had been reported to breed were visited, but no such bird was to be seen, although some Wood-Pigeons were observed, and several nests were found, which were evidently those belonging to the latter species. Some of these nests were in low stunted mountain ashes, others on the ledges of rocks.

Again, in August, 1893, I made a second journey to those glens, as it had, since my first visit, been suggested that the bird might be the Stock-Dove. Being determined that the search should be thorough, not a bush of any sort—mountain ash, willow, birch, broom, or heath—was passed without being closely scrutinised. At the foot of a birch bush a nest built of heather twigs was found, and, while examining it, two *Wood-Pigeons* came within ten yards of where the nest was, evidently with the intention of taking possession of the structure, but shied off as soon as the intruder was observed. Another nest, placed in the lower branches of a willow bush and built of the same material as the first-mentioned, represented all the nests within the glen, which is a short one and easily seen from end to end. After watching for several hours and seeing nothing but the common "Cushat," I left this glen, through which the Clistie Burn flows, and took to the glen through which the Cot Burn "wimples" leisurely along, and searched from head to foot, with the same result as in the first instance.

It is therefore perfectly clear to me that neither Rock-Dove nor Stock-Dove frequents these glens; and the whole trouble has been raised through the "Cushat" placing its nest in some instances upon rocky ledges, and thus "bringing upon itself" the name of Rock-Dove.

Genus TURTUR, *Selby.*

Turtur communis, *Selby.* Turtle Dove.

"I have only heard of two specimens of this bird being shot in the neighbourhood. The one in August, 1849, near Old Aberdeen, and the other in September, 1851." (J. Longmuir, *Naturalist*, vol. ii., p. 238.)

This is by no means a common bird with us. It may therefore be looked upon as an accidental straggler, and its recorded occurrences within "Dee" are not numerous. "On April 30th, 1870, one was seen in the grounds at Keith-hall by the late Mr. S. Burnett." (*Scottish Naturalist*, vol. i., p. 85.) "A pair was seen frequenting a field of newly sown turnips at Bridgend, Fyvie, and was shot on May 27th, 1875." (George Sim, Fyvie, *Scottish Naturalist*, vol. iii., p. 112.) One was shot at Tarland in 1891, and was preserved by Mr. Benzie, Charlotte Street, Aberdeen, with whom I saw it. "One was seen by Mr. J. Henderson, keeper, at Brucklay Castle." (Horn.) "One has been seen at Inverugie." (Serle.)

On November 8th, 1895, Mr. J. Wilson, Methlick, writes that "a party of five Turtle Doves in a wild state went close past me. I saw them a quarter-of-a-mile distant, and might have had time to get my gun, but did not think they would pass so close. However, a Sparrow-Hawk was not so neglectful for he attacked them, causing one to pass through a pane of glass, and so it was made a prisoner."

Gray says: "I have myself seen this bird in a wild state in Aberdeenshire." One was shot at Balmedie, near Aberdeen, September 4th, 1902, and was sent to me.

Order PTEROCLETES.

Family PTEROCLIDÆ.

Genus SYRRHAPTES, *Illiger.*

Syrrhaptes paradoxus, *Pallas.* Pallas's Sand-Grouse.

This interesting stranger, a native of the Steppes of Central Asia, made its first appearance in "Dee" in 1863,

when a number of fine specimens were obtained. Hopes were at that time entertained that the bird might remain with us and become permanently resident, but this hope was not realised, for by the end of the summer of that year none of the birds was to be seen; those of them that had escaped being shot had again taken their departure. Not again until 1888 did the bird appear in Britain, in the spring of which year vast numbers landed along the eastern coast of Scotland—the county of Aberdeen being specially favoured—many of the birds having taken up their quarters upon the sandy ground that lies between Mennie on the south, right on to the sands of Forvie on the north, and, again, upon the "back bar," beside the Loch of Strathbeg. On these places I have had opportunities of seeing the birds and of studying their habits.

Regarding the food of this species while here, the following list includes all the kinds that have been yet satisfactorily identified: Yare or spurrey, *Spergula arvensis;* knot grass, *Polygonum aviculare;* clover, probably *Trifoleum pratense;* orache, *Atriplex babingtonii;* flowers and seed of the small yellow clover, *Trifoleum minus;* mouse-eared chickweed, *Cerastium vulgare;* eyebright, *Euphrasia officinalis;* leaves and seeds of sorrel, *Rumex acetosella;* chickweed, *Stellaria media;* dock, *Rumex crispus;* rye-grass, *Lolium perenne;* broom, *Spartium scopurium; Molina cœrulea;* bent, *Triticum junceum;* all the vetches common to the district, and, indeed, this may be said of the *Leguminosæ* generally; barley, wheat, and oats; large seeds, which can be referred to nothing but that of the apple; and, lastly, the chrysalis of some small moth. The seeds partaken of most freely were those of the "yare;" frequently I have taken as much as three-quarters of an ounce of it from a single crop.

Besides the localities already mentioned, the birds were seen, and many obtained, through the whole eastern side of "Dee;" but this took place chiefly on their arrival. As the season wore on, the birds collected in packs upon such ground as that mentioned above. By the end of autumn all the birds had left us; but not so in other favoured localities, for in 1889 a young one was found at Binsness, near Forres, an account of which appears in Professor Newton's paper in the *Ibis* for April, 1890.

Order GALLINÆ.

Family PHASIANIDÆ.

Genus PHASIANUS, *Linn.*

Phasianus colchicus, *Linn.* Pheasant.

Although this species has been a resident in Britain for the last six hundred years—perhaps much longer (see Professor Boyd Dawkins's note in Yarrell's *British Birds*, 4th Ed., vol. iii., p. 94)—it does not seem to have found its way to "Dee" earlier than considerably after the beginning of the last century. It is stated in the *N. S. A.* that in the parish of Monymusk, Pheasants in "considerable numbers, which had been lately introduced by the proprietor, are now thriving at large." In the same publication, the Pheasant is mentioned in the list of birds for the parish of Chapel of Garioch. It is now abundant over most of the district, but this is due to the care devoted to it by man. It is doubtful if it could "hold its own" if not reared under foster-mothers and carefully cooped and fed for the first few months of its life.

Genus CACCIBIS, *Kaup.*

Caccibis rufa, *Linn.* Red-legged Partridge.

A specimen of this bird was shot by the gamekeeper on the estate of Scotstown, near Aberdeen, on December 21st, 1866, and sent to me. This is the specimen mentioned by Gray, who says it was shot "in the last week of January, 1867." Mr. Gray concludes that "this Aberdeenshire specimen therefore must have been a migratory visitor from the south."

There are many reasons why we cannot concur in such an opinion, one of which may be mentioned. For some years back there has been a strong desire manifested on the part of many landed proprietors and keepers to have "new blood" and varieties of colour introduced amongst their Pheasants, and in their dealings with London egg-vendors, they have, on many occasions known to me, had sent to them eggs of the Red-legged Partridge, as well as

other varieties, instead of what they ordered; the result being that Red-legged and other forms of Partridge have been hatched out in various parts of the country. Hence it is just as likely that this "Aberdeenshire specimen" had been hatched in the district as that it was a migratory visitor.

Genus PERDIX, *Brisson.*

Perdix cinerea, *Latham.* Partridge.

Common on all suitable ground throughout "Dee." The Partridge, like most other birds, is subject to considerable variation in colour. A not uncommon variation is that of a light drab, with faintly-traced tints of the ordinary markings. In others the colours are almost pure white, but in each of these the specimens were all birds of the year with ill-developed feathers. Another variation, not so common, is that of birds that agree with that figured by Sir William Jardine as *Perdix montana, Nat. Lib.*, vol. iv., p. 79. Others again are of a dark chestnut colour, one of which is in the possession of the Hon. Captain Forbes, Glasgoego Cottage, Blackburn.

Genus COTURNIX, *Bonnaterre.*

Coturnix communis, *Bonn.* Quail.

The Quail is not a common species in "Dee," still it is one that is occasionally found, and its nest and eggs have been seen in the district. A Quail's nest with twelve eggs was found in the parish of New Deer by the Rev. J. Smith, Monquhitter, in 1848. A nest, also containing twelve eggs, was found on the estate of Craigmile, Aberdeenshire, July, 1865, three of which came into my hands. It is reported in the *Aberdeen Herald*, November 4th, 1865, that a Quail was shot near Grandholm. One was killed at Kintore, September 5th, 1870, and another at Craigmile on the 16th of the same month. A pair bred at Craigdam, parish of Tarves, in the summer of 1870. In 1876 a pair bred at Tarland. For the information respecting the last the writer is indebted to Mr. John M'Bain, head keeper to Lord Aberdeen. A pair, male and female, were killed by Lindsay Pirie, Esq., near Inverurie, October 12th and 19th, 1885. One, a female, was

killed at Glenbervie, September 23rd, 1893. In the same year, Mr. George Sim, Fyvie, informed me that a Quail was heard by him from 20th May till 12th June; and on 9th September of the same year, one was killed at Wartle by Mr. W. Leslie. Again, in the same year, a nest containing thirteen eggs was found near Newburgh, on the Ythan, by Mr. Murray, who brought one of the eggs to me for identification. On October 29th, 1895, a female was shot upon the links a little to the north of the Don, and was brought by its captor to the writer. The above-mentioned species were all extremely fat, and their stomachs filled with various seeds and small beetles.

"I have heard of its occurrence in Morayshire; but the most northern locality known to me with certainty is the parish of Towie in Aberdeenshire, whence my friend Mr. Craigie sent me twelve eggs that were found in a grass field by a mower." (MacGillivray.)

"I have eggs said to have been found near Banchory-Ternan in Kincardineshire. A party or brood for some time haunted a cornfield not far from Kintore, in September, 1869." (Stewart Burnett, *Scottish Naturalist*, vol. i., p. 85.)

In the *O. S. A.* for the parish of Lonmay, Quails find a place in the list of birds given.

Family TETRAONIDÆ.

Genus LAGOPUS, *Brisson.*

Lagopus cinereus, *MacG.* Ptarmigan.

To this beautiful bird the name of *Lagopus mutus* has been given; but such an appellation seems to me to be misapplied. Often on the summits of some of our high mountain ranges, where little life is visible, I have been startled by the snorting cry of the Ptarmigan as it arose from some lichen-covered cairn; and where the bird is fairly numerous the cry can be heard repeated on all sides, evidence surely that *mutus* cannot be applied to it. In such localities I have watched the bird while it was yet in its winter dress, when it had assumed its mottled spring garb, and when in its beautiful blueish-grey summer robes. Again, I have seen it month by month gradually returning to its cold-like wintry white; and although it has been asserted that each of these changes

means a change of colour only in the feathers, there is nothing to warrant such a contention. Feathers in every case are developed suited to the wants of the species and the changes of the season.

The Ptarmigan is a common species that generally keeps to the summits of our highest mountains, but it is not strictly confined to such situations. It has been seen on Bennachie (1733 feet), and one was killed there by the late Sir James Elphinstone, who sent it to me. Four were seen on the low Culsalmond Hills, August, 1885, as I was informed by Mr. Walker, keeper; and it has been shot upon the Hill of Mormond (769 feet), by Mr. Corbet, of Cortes, on Christmas Day, 1877.

Lagopus scoticus, *Latham.* **Red Grouse. Muir or Moor Fowl. Muir Cock. "Gor-cock."**

This plentifully-distributed native is one that brings back pleasant recollections to me. Living in a district surrounded by grouse moors in the years 1858, 1859, and 1860, there were many opportunities afforded of studying the habits of the "Gor-cock," which were not altogether neglected. Often in company with our old friend, "Charlie" Riddle, the keeper, who was ever ready to help, have we found ourselves upon the hill-side before even a "streak of grey" was visible. At such a time we have found ourselves stepping cautiously, lest by some untoward movement we might break in upon the solemn holy stillness of the hour; and in contemplation of such silent, yet eloquent, surroundings, how often have fallen into a reverie from which we were hastily aroused by the first call of the Grouse-cock, who announced that day had come, and now was the time to be up and doing.

The Red Grouse is an abundant species in "Dee," and its range extends from the highest mountains in the interior to the flats and moors along the coast line, where heather grows plentifully.

Genus TETRAO, *Linn.*

Tetrao tetrix, *Linn.* **Black Grouse. "Black-game."**

Like the foregoing, this is an abundant species, frequenting plantations, birch-scrub, and the bare hill-sides. There

Photo.] HYBRID BETWEEN CAPERCAILLIE AND PHEASANT. [*Mr. Middleton.*

are few more strange or interesting sights to be witnessed by the field naturalist than what is to be seen at early morn when the Black Cocks meet to prove their power in battle. Then they congregate in numbers on some knoll, and there fight with such determination that some are scarcely able to quit the field, their loud cries the while being easily heard a mile distant. Thus they begin the season of love.

Tetrao urogallus, *Linn.* Capercaillie.

The Capercaillie, once a common species throughout Scotland, became extinct about 1762. An attempt was made to reinstate the bird at Mar Lodge in 1827, and at Inverernan in 1870, both of which resulted in failure; but in 1837 a number of birds were brought from Sweden to Taymouth, which throve, and from them our present stock has come. Year by year they have extended their ground northward, and are now resident and breeding freely in "Dee."

It is rather a curious fact that in the "extension of territory" of this species, it is the female that takes the lead. This has been particularly evident in the approach to and march through "Dee." In every case where the Capercaillie has appeared, the female takes up the ground several years before a cock is to be seen; and one result of that is that, upon ground thus occupied by the female only, a number of crosses between her and the Black Cock are obtained. Nor does she confine herself to the Black Cock alone, Pheasants also she will mate with. A very curious cross of this sort was shot by Sir Arthur Grant, Bart., at Monymusk, in the autumn of 1895. Sir Arthur sent it to the writer, who, after having preserved the bird, had it photographed, a reproduction of which is here given. This frequency of hybridism on the outskirts of Capercaillie territory has been observed in other countries.

The first appearance of the Capercaillie near Aberdeen was that of a female, which was shot in the wood of Kincorth in 1879. This specimen is in my hands. In 1896 a nest with six eggs was found at Hazelhead Moor, and in 1897 another with three eggs.

Order FULICARIÆ.

Family RALLIDÆ.

Genus RALLUS, *Linn.*

Rallus aquaticus, *Linn.* Water-Rail.

This retiring little bird is not well known with us, nevertheless it is fairly abundant where suitable haunts exist. There it lives and brings forth its young, and, in its autumnal migration, it frequently falls to the sportsman's gun.

Genus CREX, *Bechstein.*

Crex porzana, *Linn.* Spotted Crake.

"I have . . . . seen many specimens obtained in Forfarshire, in the neighbourhood of Aberdeen, and in various parts of that county. Dr. Farquharson mentions its breeding in Alford." (MacGillivray.)

Edward, in his *Birds of Strathbeg*, says, "twice found;" but gives no clue as to who found them, or when or where they were found.

This cannot be regarded as a common species in "Dee." In the course of forty years I have only seen or heard of the following: In 1863, two were shot on the estate of Haughton, Alford, one of which was preserved and was in the possession of the proprietor, from whom I received the information. The second specimen was too much injured and was cast aside. On 15th September, 1866, one was shot upon the estate of Fasque, and was sent to me by the proprietor, the late Sir Thomas Gladstone. On the same date, one was shot on the Aberdeen Links by the late Mr. J. Proctor, and in September, 1875, one was killed at Newburgh by Mr. C. Pope. This was an immature bird. In the same month and year, one was shot by Col. Simpson, Cobairdy, near Huntly, while about the same time another was killed on Old Aberdeen Links, and is in the possession of Mr. Campbell, Hutcheon Street, Aberdeen.

Crex pratensis, *Bechstein.* **Corn-Crake. Land-Rail.**

This is a regular annual visitor, arriving in May. It is to be heard uttering its rough cry as it moves along the pasture field, which, at that early season, has not grass sufficient to shade the timorous crake from observation. It is plentifully distributed throughout our district, forming its nest in the hay, corn, grass, and even in uncultivated lands. It generally brings out two broods, and then departs about September, although we have often seen it as late as the month of November.

Genus GALLINULA, *Brisson.*

Gallinula chloropus, *Linn.* **Moor-Hen. "Water-Hen."**

Resident and common, frequenting lochs, streams, and mill-ponds.

Genus FULICA, *Brisson.*

Fulica atra, *Linn.* **Common Coot. Bald Coot.**

Like the last-named species, the Coot is abundant throughout "Dee," occupying the same localities and in company with the Water-Hen.

Order ALECTORIDES.

Family GRUIDÆ.

Genus GRUS, *Bechstein.*

Grus communis, *Bech.* **Crane.**

"This 'occasional and very rare visitor,' as Yarrell entitles it, has lately occurred in this neighbourhood. It was first seen about the end of May in a field about eight miles up the river Dee, and remained some days in the vicinity before being shot. It was a young male, and is now in the possession of Mr. Alex. Mitchell." (J. Longmuir, *Naturalist*, vol. ii., p. 238, 1852.)

Gray, in speaking of this same specimen of the Crane, says: "It was killed by Mr. Francis Anderson, and is still in

that gentleman's possession. The specimen was preserved by Mr. Mitchell, and shown by him to the late Professor MacGillivray shortly before his death. It was the only example of the species ever seen in the flesh by that excellent ornithologist, and is now invested with a somewhat melancholy interest, as being the very last bird he examined."

Smith, in his *New History of Aberdeenshire*, published in 1875, in speaking of "water birds which are common either on the sea-shore, or visitants to the Loch of Strathbeg," includes in the list "the Common Crane *(Grus cinerea);*" but the zoological portions of this "History" are utterly unreliable. "One seen on 21st November, 1868; it was pursued and teased by a great number of rooks and jackdaws." (George Sim, Fyvie, MS. list.)

Family OTIDIDÆ.

Genus OTIS, *Linn.*

Otis macqueeni, *Gray.* Macqueen's Bustard.

A male was shot near St. Fergus, Pitfour Estates, by J. G. Walker, October 24th, 1898—(recorded in the *Annals of Scottish Natural History*, 1899, p. 73).

Otis tetrax, *Linn.* Little Bustard.

This rare and accidental straggler is represented in "Dee" by two examples, the first of which, a female, was shot by Mr. J. B. Manson on the estate of Fingask, Oldmeldrum, November 13th, 1873. It was sent to me. The bird was in fair condition; its stomach was filled with turnip-tops, and its weight was 1 lb. 7¼ ounces. The second specimen was killed at Culter, December 10th, 1889; sex and weight not noted. It was preserved by Mr. Benzie, Aberdeen.

Family CHARADRIIDÆ.

Genus CHARADRIUS, *Linn.*

Charadrius pluvialis, *Linn.* Golden Plover.

There is no suitable hill within "Dee" that I have visited during the summer without seeing this bird. Upon

the tops of the ranges of middle height the plaintive wail of the Plover is always to be heard. On some of the Strathdon hills—the Coreen range, for example—the Plover, in the breeding season, is very abundant. On these hill-tops I have heard the birds calling around me by the dozen, and if one but remains stationary for a little, the inquisitive creatures come up quite close to where, to them, the strange figure stands motionless.

When the duties of incubation have been performed, and the young able to take wing with their parents, the Plovers gather in flocks and betake themselves to the sea coast, where they are to be seen during autumn. Some remain in favourable localities all the winter, but most of the birds leave us for a time, making their appearance again early in spring.

Charadrius helvetica, *Linn.* Grey Plover.

This species is fairly abundant along the coast for a short time during its autumnal migration. Although it is claimed as a common "Dee" bird by several of the writers of the *O. S. A.* there is no question that they were mistaken. Indeed, I find that in many cases the "Golden" Plover is called the "Grey" by people from whom something more might be expected.

Charadrius curonicus, *Gmelin.* Little Ringed Plover.

This little bird has only on one occasion been obtained in "Dee," an adult male specimen having been caught alive in Aberdeen Fish Market, May 17th, 1894. It was given to me by Mr. Smith, the late superintendent of the market, and is still in my possession.

Charadrius hiaticula, *Linn.* Ringed Plover.

A common summer visitor, and breeds extensively among the sand dunes that lie along the Aberdeenshire coast, as also along the river-sides where suitable ground occurs.

Charadrius morinellus, *Linn.* Dotterel.

Everyone who has written about birds within the past forty years has had to state that the Dotterel continues

to decrease in numbers, and the statement must now be repeated. It may, however, be well, before recording the latest occurrences of this interesting species in "Dee," to bring together every bit of information we have been able to "lay hands upon" regarding it.

In the *O. S. A.* of the parish of Tarland, we are told that "the mountains abound with Moor-fowl, Plover, and Dotterel." In vol. ix., p. 107, of the same work, the Dotterel is included in the list of birds given for the parish of Birse, and in vol. xv., p. 475, for the parish of Alford.

"In the parish of Towie, in Aberdeenshire, I met with a very large flock on the low hill, on the 10th September, 1821, and was assured by a gentleman residing at its foot that they bred on the elevated moors every year." The author, continuing, says: "Dr. Irving, Old Aberdeen, informs me that he has shot several specimens in August and September on the moors near Tarland. The Rev. Mr. Smith says: 'The Dotterel is seen almost yearly, in its progress towards the north, on the links—as they are called—which adjoin the Loch of Strathbeg. In May, 1847, I accidentally fell in with a flock upon a piece of ploughed land, near the old castle of Fedderat, in New Deer.' On the 8th of August, 1851, being on the celebrated mountain of Lochnagar, in the upper part of Aberdeenshire, I came upon a Dotterel, which flew from among some stones, pretending lameness, and hovered around, manifesting great anxiety. Although it was evident the bird had a nest or young ones, as it fluttered and limped when chased, we failed in discovering its charge. They are known to breed in other parts of Aberdeenshire, especially in the Strathdon district." (MacGillivray.)

"Three were shot at Strathbeg, in the spring of 1852, by Mr. Crawford Noble, who sent me this information." (Edward.)

In the *N. S. A. of Aberdeenshire*, the Dotterel is included in the "Zoology" of Glenbucket; and for the parish of Strathdon it is said, "and the Dotterel's (*C. morinellus)* nest is found in the more sequestered hills."

"Very rare; I have only seen one, which was killed at Belnagouk in May, 1858. It was so covered with oily fat that, before the skin was taken off, the feathers were completely run over." (J. Wilson, Methlick, MS.)

Mr. William M'Boyle informs me that, prior to 1860, "Dotterel were seen every year, for a few days, about Craigston, near Turriff, some of which I shot."

About 1872, Mr. Watters saw a flock of eight or nine on the hill beside Aboyne Castle. He had observed several on the same ground for some years.

On the 28th of May, 1873, three Dotterels were killed near the Loch of Loirston, Kincardineshire. These were sent to me; and on the same date one got killed by striking the telegraph wires at Cove, and was sent to the late Mr. Mitchell, Aberdeen. As these two places are near to one another, there seems little doubt that those birds had formed part of the same flock.

Mr. Fletcher, manager of Glenbucket Estate, informs me that Dotterel used to breed on the top of the hills to the north of the Glen, and that the former keeper had shot them there. I accordingly interviewed this man (Mr. Clark), and he said that "twelve years ago" he saw a female with one young one on the top of the Gellacharn. This would have been about 1879.

On the 25th of June, 1886, I received two from James Allan, Esq. of Templand, Auchterless, which had been killed in the parish of Fyvie. Two were killed at New Deer in 1887, and also forwarded to me.

Genus VANELLUS, *Brisson.*

Vanellus vulgaris, *Bechstein.* Lapwing. "Peewit." "Tuchit." "Green Plover."

This familiar and still common bird is year by year decreasing in numbers, and must continue to do so if the treatment it has been subjected to for many years past is allowed to continue. Few birds there be that are so essentially the farmer's friend, and none exist that do him more real good and require from him nothing in the shape of a share in his produce for their service. The "Tuchit's" sole requirement is to be allowed to pick up the insects, many of which are injurious to the farmer's interests and peace, and a quiet place to bring out its young. This being so, we should naturally expect that farmers would see that their servants

and families did not take, as they have been doing, thousands of dozens of Lapwings' eggs every year, for no other purpose than that the depraved taste of the idle gourmands that fill the highest places in society may be gratified. But farmers are thoughtless, indeed ignorant of the mischief that is being done, and so long as a high price is offered for Plovers' eggs, unless those immediately interested become alive to what the ultimate result must be, the evil will continue until the pleasant cry of the "Peewit" will be heard no more in the land.

Genus STREPSILAS, *Illiger.*

Strepsilas interpres, *Linn.* Turnstone.

To be seen in flocks along the coast during spring migration, where they sometimes remain till the middle or end of June.

On the 14th of June, 1890, I, in company with Messrs. M'Boyle, late of Peterhead, saw a number of Turnstones at Scotston Head, a little to the north of the river Ugie, two of which—a male and female—we obtained. Both were well advanced in their summer dress, but this species is not known to breed in Britain. Again, in autumn, they appear in numbers, some of them remaining until the end of the year.

In December, 1896, one was brought to me that was shot from a small flock at the mouth of the Don.

Genus HÆMATOPUS, *Linn.*

Hæmatopus ostralegus, *Linn.* Oyster-Catcher. "Sea-Pie." "Crocket."

A common resident species, living in flocks about the estuaries during winter, and betaking itself to the rivers in summer for the purpose of incubation. Then it may be found right at the head-waters in the interior of the country. Its nest, formed among the shingle by the river-sides, is merely a slight hollow amongst the stones, and there three or four eggs are deposited. Some places seem to have an attraction for this bird during the breeding season which other localities, apparently equally favourable, do not possess.

Such a place is upon the Dee, opposite Castleton of Braemar, and upon the Clunie Water, not far distant. In July, 1892, I saw the birds near the head-waters of the Don.

Family SCOLOPACIDÆ.

Genus RECURVIROSTRA, *Linn.*

Recurvirostra avocetta, *Linn.* Avocet.

Very rare; the only specimen known to have occurred in "Dee" is one that was shot on Old Aberdeen Links by the late Mr. A. Mitchell in 1841. Edward says, in his list of the *Birds of Strathbeg*, that the Avocet "has been obtained," but the statement is too vague to be of any value.

[Genus HIMANTOPUS, *Brisson.*

Himantopus candidus, *Bonnaterre.* Black-winged Stilt.

The only notice of this species having been seen in "Dee" is that given by Gray, who says: "The first information I received was from my indefatigable correspondent, Mr. Angus, of Aberdeen, in the following note: '15th September, 1867—I observed a bird in the Tile Burn, near Don-mouth, which, on close inspection, I recognised as the Stilt Plover, ... viewed with a binocular glass, under a clear sun, at a distance of 130 yards, the legs orange, iris beautiful red.'" This is charmingly exact. The Stilt's eye is under a quarter-of-an-inch in diameter. Let anyone view an eye four times that size placed at the same distance, and see if he can say if it is "beautiful red" or any other colour, especially under a clear sun!]

Genus PHALAROPUS, *Brisson.*

Phalaropus hyperboreus, *Linn.* Red-necked Phalarope.

Like the preceding, this is a very uncommon species in "Dee." One was obtained at Aberdeen in 1846; but I am unable to say who obtained it, or by whom it was identified.

"A female specimen was shot at Fraserburgh on 27th October, 1853, by Mr. John Gatherer of H.M. Customs there." (Edward.) The bird was given by its captor to Edward.

"On the 15th and 18th of September, 1870, two were shot by Mr. A. Mitchell on Old Aberdeen Links." (Taylor's MS.)

Phalaropus fulicarius, *Linn.* Grey Phalarope.

On November 1st, 1866, one was killed in the Tile Burn, near Don-mouth, by the late Mr. A. Mitchell.

"During the gales of 23rd and 24th December, 1876, one was killed on the Oldtown Links, Aberdeen." (Taylor's MS.) There was one in the possession of the late Mr. A. Mitchell, and was seen while in his hands by Mr. A. M'Pherson, as he has it recorded in his MS. Natural History Journal.

Edward includes this species in his *Birds of Strathbeg.*

Genus SCOLOPAX, *Brisson.*

Scolopax rusticula, *Linn.* Woodcock.

A common species throughout our district, where it breeds in considerable and increasing numbers. It is now admitted, although long looked upon as mythical, that the Woodcock can, and does, carry its young from place to place by its feet.

Of course in addition to those resident, there is a large influx each autumn; consequently we have a much larger number throughout the winter than at any other season of the year.

Genus GALLINAGO, *Leach.*

Gallinago major, *Gmelin.* Great Snipe.

An occasional visitor to "Dee." Edward mentions "one having been sent from Strathbeg along with some other birds," to the Rev. Mr. Smith, rector of Banff Academy, about 1839 or 1840.

"One was shot by Mr. Duncan, at Aberdour, on the estate of Brucklay." (Horn.)

One was obtained on the estate of Durris, in October, 1871, by the late Major Keen, who sent it to me.

Gallinago cælestis, *Frenzel.* Common Snipe.

Abundant, and breeds freely in all suitable grounds.

Gallinago gallinula, *Linn.* Jack Snipe.

"Generally reported a winter visitor as perhaps most are here. In autumn seldom observed till the end of October. . . . In their favourite localities a few are certainly found far on in spring. I have seen them even late in June, and once found in June, 1848, a nest of four eggs." (S. Burnett's MS.)

Although common in winter, the above is the only record of nesting of this species in "Dee" of which I am aware.

Genus TRINGA, *Linn.*

[Tringa maculata, *Vieillot.* Pectoral Sandpiper.

"An immature bird was shot by Mr. A. Mitchell, at Donmouth, on the 2nd October, 1867." (Gray.)]

Tringa alpina, *Linn.* Dunlin.

Abundant during spring and autumn migrations, especially the latter. A few remain with us during summer and breed about the links of St. Fergus, Loch of Strathbeg, and other suitable localities.

Tringa minuta, *Leisler.* Little Stint.

Abundant for a short time during autumn, at which period it may be seen feeding about the mud flats of the Don and Ythan, where I have frequently obtained it.

In its autumnal southern flight, the Little Stint sometimes strikes lighthouses, and is found dead or dying by the keepers.

Tringa temmincki, *Leisler.* Temminck's Stint.

"A specimen of this rare bird was obtained on Old Aberdeen Links, by Mr. A. Mitchell, in August, 1871, and in the same place, second week of June, 1872, a second specimen." (Taylor's MS.)

Mr. Gray, in his Appendix to the *Birds of the West of Scotland*, p. 514, says: "Mr. Mitchell has since informed me that he shot a *second* specimen on 4th September," but no year is mentioned, so that Mr. Mitchell must have forgotten the 1872 specimen as being his *second*, or there may be some mistake in the 1872 record.

One was shot at the Colly Burn, near Peterhead, by Mr. John M'Boyle, 5th September, 1891.

Tringa subarquata, *Güldenstädt.* Curlew Sandpiper.

This species is known to occur sparingly in most suitable places along the coast of "Dee." The late Mr. Mitchell obtained it at Don-mouth, and it has been got several times by Mr. M'Boyle at Peterhead, with whom I have seen it. Mr. Stewart Burnett claims to have seen it in the parish of Kinellar on 30th May, 1852, when, from its behaviour, he thought it might have young. He also records having seen it "in wet localities near Kintore and Echt."

Tringa striata, *Linn.* Purple Sandpiper.

This hardy little bird may be seen in small flocks on the rocky portions of the coast of "Dee," and few more beautiful and interesting sights may be witnessed than that of a number of these birds crowding on a rocky ledge upon which every now and again the sea comes washing. How nimbly the little things spring on wing as if fearful lest their feet get wet with the coming of the laving tide, and how quickly they return when the waves recede, to feed upon the small crustaceans to be found amongst the short sea-weed. There they run, turn, leap over, and "dodge" each other as they pass, in the most curious manner, and however small the ledge may be, while each individual is eager to make the most of its time, there never appears to be any quarrelling amongst them.

Tringa canutus, *Linn.* Knot.

A regular autumn visitor, some continuing through the greater part of winter. I have seen specimens killed in September still in possession of a great part of their breeding dress.

This bird is often called the Silver Plover, and is frequently confused with the Grey Plover.

Genus MACHETES, *Cuvier.*

Machetes pugnax, *Linn.* Ruff.

This species passes along the coast in March, on their way to their breeding haunts, at which times they can be heard uttering their cry as they fly and wheel around Aberdeen after nightfall. They are to be seen and heard, however, in greater numbers in their autumnal flight, at which season I have observed them in large flocks upon the marshy ground near Don-mouth. From these flocks considerable numbers are obtained, but they are nearly all immature birds.

Genus CALIDRIS, *Cuvier.*

Calidris arenaria, *Linn.* Sanderling.

A common autumn visitor, to be seen in considerable numbers upon the sandy shores of "Dee," some few specimens remaining well through the winter.

[It is said by Horn and by Serle that "a few remain all summer."]

Genus TRYNGITES, *Cabinis.*

Tryngites rufescens, *Vieillot.* Buff-breasted Sandpiper.

This species is represented by a single specimen in the possession of Mr. J. Wilson, Methlick, who informs me by letter: "I killed it myself, second week of August, 1862, near the mouth of the Ythan."

Genus TRÏNGOIDES, *Bonaparte.*

Tringoides hypoleucus, *Linn.* Common Sandpiper. "Kitty Needy." "Tibby Thiefie."

A regular summer visitor, betaking itself to our streams and mountain lochs, along the sides of which it forms its nest and brings out its young. Often have I visited out-of-the-way

mountain tarns, to find no sign of life around its solitary shores except the "Kitty Needy," which would skim along near the surface of the glassy pool, uttering its cry the while. I have found its nest amongst tufts of grass, heath, and whin bushes.

[Tringoides macularius, *Harting.* Spotted Sandpiper.

Two specimens are recorded by Mr. Gray, his informant being Mr. Angus, Aberdeen, who states that "two specimens —a male and a female—were left at the Aberdeen Museum in August, 1867, in the absence of Mr. Mitchell, who, up to the present moment, does not know by whom the birds were presented, or where they were shot."

A specimen of this species was sent me by Mr. George Sim, Fyvie, who states that he shot it beside a disused mill-dam on August 23rd, 1872.]

Genus HELODROMAS, *Kaup.*

Helodromas ochropus, *Linn.* Green Sandpiper.

"On 17th September, 1867, a specimen was shot by a lad on Old Aberdeen Links, and sold to the late A. Mitchell, Aberdeen. A male and female were killed by the side of a hill-burn in June, 1865, and were preserved by Mr. W. Beveridge, Craigh, parish of Tough." (Taylor's MS.)

It has been alleged that the Green Sandpiper breeds in Aberdeenshire; but the statement stands much in need of confirmation.

A specimen of this species is in the possession of Mr. J. Wilson, Methlick, who says, in a letter to me, that "the Green Sandpiper was killed on the lands of Gight nearly thirty years ago." That brings the time to about 1865.

"A pair shot at Gourdas in August, 1876." (Serle.)

Genus TOTANUS, *Bechstein.*

Totanus glareola, *Gmelin.* Wood Sandpiper.

One was shot by me at the Loch of Strathbeg, May 8th, 1868, and is still in my possession. By a slip, Mr. Gray puts the date of this occurrence as the 8th of July, 1867.

On the 13th of August, 1895, a male was shot at Udny by George Muirhead, Esq., late factor on the Haddo House Estates, who sent the bird to me. Its stomach contained fragments of beetles, which it had been picking up around the small moorland pool where it was killed. The specimen is now in the possession of J. H. Udny, Esq. of Udny.

Totanus calidris, *Linn.* Redshank. "Pileel."

A common resident species, frequenting the muddy estuaries along the coast line, betaking themselves inland in spring, during which season, and through the summer, they can be seen in numbers about most of the marshy ground of the district.

Totanus fuscus, *Linn.* Spotted Redshank.

This species is represented by a single female specimen, which was shot by Mr. Bouck, in the Ythan estuary, September 13th, 1902. It is rare in all parts of Britain. "It inhabits Europe, Asia, and Africa generally."

Totanus canescens, *Gmelin.* Greenshank.

Not a common species; a few are to be seen upon the sands and mud-flats at Don and Ythan during the autumnal migration. It is not known to breed with us.

Genus LIMOSA, *Brisson.*

Limosa lapponica, *Linn.* Bar-tailed Godwit.

The Godwit visits the district along the coast of "Dee" for a short time during autumn, at which season it may be seen in considerable numbers. It is said to breed in the Moss of St. Fergus. A young one was killed there in August, 1897, and is in the possession of Mr. J. Mutch, Pitfour, with whom I saw it; as also young and old that were killed in the same place in 1898.

Limosa ægocephala, *Linn.* Black-tailed Godwit.

Like the foregoing, this species is an autumn visitor to "Dee," but in much smaller numbers. I was the first to

obtain a specimen of this species at Aberdeen. This was in September, 1866; the bird was feeding in early morning near the mouth of the Tile Burn.

Two immature birds were shot by Mr. Angus "near Aberdeen," 2nd September, 1867; while one was killed by Mr. Gordon of Cairness, at the Loch of Strathbeg, in the middle of September, 1868. Two were shot at Slains, 2nd September, 1886, but by whom I have omitted to note.

Edward records having found two specimens at Strathbeg —(see *Naturalist*, vol. iv., p. 268).

Genus NUMENIUS, *Brisson.*

Numenius borealis, *Forster.* Esquimaux Curlew.

This rare bird has been several times obtained in "Dee;" first on September 6th, 1855, when one was shot on the estate of Durris. On September 23rd, 1878, one was shot at Slains by Mr. Ramsay, gamekeeper there, who sent it to me. Again on September 21st, 1880, one was shot in the Forest of Birse by H. C. Hadden, Esq., who sent it to me; and in the same year and month one was shot on the Hill of Craigston, parish of King-Edward, and was preserved by Mr. M'Boyle, Peterhead.

Numenius phæopus, *Linn.* Whimbrel.

Not an abundant species. A few only are seen during the autumn migration, at which season the coast sportsmen manage to secure some specimens.

Horn says: ["Frequently seen during summer."]

Numenius arquata, *Linn.* Curlew. "Whaup."

A resident species, frequenting the coast and river estuaries during winter, betaking itself to the inland moor and low hills during summer, on which places it forms its nest, bringing out three or four young. At this season its food differs very widely from its winter fare. Through the latter period it feeds largely upon worms and other lowly forms of animal life to be obtained in the soft oozy ground then frequented; whereas, in summer, it eats largely of the

various wild berries that grow upon the hills, from which fact its flesh has a very pleasant flavour and forms a very toothsome table dainty.

"The Curlew or Whaup, so frequent in Lothian, has not found its way here." (Robertson, *A General View of the Agriculture of Kincardineshire*, p. 396.)

Order GAVIÆ.

Family LARIDÆ.

Sub-Family STERNINÆ.

Genus STERNA, *Brisson.*

[**Sterna macrura**, *Naum.* **Arctic Tern.**

"A summer visitant, breeding on St. Fergus beach." (Serle.)

Edward claims to have found this species breeding on one of the islands in the Loch of Strathbeg. This may be correct, but additional confirmation is required in the matter.]

Sterna fluviatilis, *Naum.* **Common Tern.** **"Sea Swallow."** **"Pictarny."**

A summer visitant, abundant, and breeds upon the sand-flats and among the sand dunes along the coast of Aberdeenshire. There is great danger, however, that before many years have passed, this fine species will visit our coasts no more. Thirty years ago their nests could be seen in dozens where now there is not one, and year by year the birds are becoming less numerous. This is caused by the continual robbing of the nests, and egg-collectors have much to answer for in this matter. A senseless fad has sprung up among "oologists" (?) that nothing short of a clutch of eggs will suit them, and if great variation is observed among the eggs of any particular species of bird, several "clutches" must be had, besides "any number" of single varieties. Thus the poor Terns and many others birds are robbed by fellows whose only object is "how many clutches and what amount of cash can we make out of them in the season?"

Sterna dougalli, *Montague.* Roseate Tern.

Edward records having shot a specimen of this species at Strathbeg in May, 1849, but the observation in reference to the Arctic Tern applies in the present case with equal force.

Sterna minuta, *Linn.* Little Tern.

This pretty and delicate little bird is a summer visitor and breeds regularly with us, and from the same cause is fast decreasing in numbers.

Sterna cantiaca, *Gmelin.* Sandwich Tern.

An irregular visitor to "Dee." In 1864, numbers appeared in the end of July and beginning of August about the mouth of the Don, when twelve specimens were obtained, mostly young birds. Again, in 1866, from the 15th July onwards, for about ten days, a number appeared about the same place, since which time I have not seen or heard of any others.

Edward records that he "observed a pair this summer, 1854."

Sterna nigra, *Linn.* Black Tern.

In October, 1866, Mr. J. Giles, artist, shot a specimen upon the Ythan, near the village of Newburgh, and sent it to me.

One "in summer plumage" (!) was shot by Mr. Angus at Don-mouth on 30th April, 1867—(Gray).

Sub-Family LARINÆ.

Genus LARUS, *Linn.*

Larus eburneus, *Phipps.* Ivory Gull.

A rare straggler in "Dee." On November 17th, 1874, I saw two feeding along with other Gulls at the entrance to Aberdeen harbour, and next morning, along with my friend Mr. W. Robb, went and secured both. They were immature birds.

On 9th November, 1893, an immature specimen was shot at Rosehearty and sent to me.

"A mature bird was caught at Fraserburgh, January 13th, 1895." (Serle, *Annals of Scottish Natural History*, April, 1895, p. 125.)

From information received from Mr. J. Fraser, Boddam, I am able to state that four specimens were killed at the mouth of the Ythan during December, 1894.

In January, 1896, an immature bird, killed at Pennan, was brought to me.

Larus tridactyla, *Linn.* Kittiwake.

The Kittiwake is an abundant species with us, and breeds in vast numbers in many places along the rocky coast, both in Kincardineshire and Aberdeenshire, and since the Sea Birds' Protection Act came into operation, this, and the whole family of Gulls that breed with us, have increased very considerably.

Formerly this species was a regular article of food, but now they are not used. Pennant, while on his tour in Scotland in 1771, in speaking of the multitudes of Kittiwakes to be seen on the coast of Aberdeenshire, says: "The young are a favourite dish in north Britain, being served up a little before dinner as a whet for the appetite; but from the rank smell and taste, seem as they were more likely to have a contrary effect. I was told by an honest gentleman who sat down for the first time to this kind of whet, as he supposed, but after demolishing half-a-dozen with much impatience, declared that he had eaten *sax* and did not find himself a bit more hungry than before he began."

Notwithstanding the above opinion, the Kittiwake when *properly* cooked is a very good and pleasant article of food, and has none of the "rank smell and taste" attributed to it. As it is *unfashionable*, however, at present to eat Sea Gulls, many a poor wretch would almost as soon starve as think of partaking of such a dish.

"Along the rocky shores of this country, myriads of migratory birds take up their abode for a few months in the spring and summer. . . . . These consist of many distinct kinds, such as Kittiwakes, Coots, Tommie-nories or

Greenland Parrots, and several others." (Robertson, *General View of Kincardineshire*, p. 397.)

Larus glaucus, *Fabricius.* Glaucous Gull.

This fine and easily-recognised species is a winter visitor to "Dee." I, as well as most other sea-coast gunners, have killed both old and young upon Aberdeen beach, where the bird is to be seen in greater or lesser numbers almost every season.

Larus leucopterus, *Faber.* Iceland Gull.

An immature specimen was shot at Collieston, in 1892, by the late Dr. Pressley, who presented it to me. It is now in the collection of Mr. James Simpson, Aberdeen.

"An occasional winter visitant." (Horn.)

On December 25th, 1893, I saw an Iceland Gull flying about amongst a number of Herring Gulls, most of whom were immature. The birds were feeding upon fish livers that were being thrown to them at Aberdeen Fish Market, thus affording an excellent opportunity of identifying the stranger.

In reply to some enquiries regarding this species, Mr. M'Boyle has kindly favoured me with the following: "Peterhead, March 6th, 1896. They are far from rare. I generally see one or two whenever I care to look for them, but they are usually immature. Through the present winter there has not been so many as during the two or three previous seasons. During part of March and April last year I was working near the harbour, and during that time one up to three could be seen every day coursing along the shore, sometimes taking a survey of the harbour close beside us, so that there was no mistake as to their identity."

Larus argentatus, *Gmelin.* Herring Gull. "Willy-Goo."

Abundant, and breeds in many places in large colonies along the coasts of "Dee." When the period of nidification is over, old and young often betake themselves inland, feeding among the ploughed fields or about dung heaps where fish refuse or other garbage has been laid down.

Of late years, this species has become somewhat troublesome to the farmer, it having developed a strong liking for his turnips; by digging holes in the side of the bulbs, water accumulates therein, resulting in the early destruction of each root so acted upon. So eager are the birds in this work that they soon gorge themselves, after which they move off to their favourite resting-places—often by the side of small pools—where they rest until the turnips are digested, when the refuse portion is cast up in the shape of dry chalky-like pellets, which may be seen in immense quantities at such resting-resorts.

Nothing comes amiss to this bird in the shape of food. It eats corn and almost any sort of carrion. I have seen them tearing their dead brethren, and eating them with much apparent satisfaction.

In the "Ornithology of the Coast," given at p. 116 of the *Black-book of Kincardineshire*, the Herring Gull occupies the first place.

Larus canus, *Linn.* Common Gull.

A fairly plentiful species that remains with us throughout the year, and forms its nest upon the tops of some of our hills.

In company with Mr. William Wilson, Hillocks, Terpersie, I, in June, 1890, visited the Hill of Drumbarton, a high, rounded, flat-topped eminence, that forms the east side of Terpersie Glen. Here, after a little search, we found a nest containing three eggs, all of which had been newly sucked, evidently by Carrion Crows, which were frightened away by our approach. Many of the body and scapular feathers of the Gulls were lying about the nest, which was made of heather twigs and moss, very shallow, and placed beside large flat stones. Other two nests were seen built in the same way, and with the same surroundings, but no eggs. It is doubtful if any young are hatched, for the crows are continually prowling around, and it seems impossible for their eggs, so much exposed as they are, to escape this keen-sighted plunderer; nor would the young, if they were hatched, have any better a chance of escape, seeing they have to be left so long unprotected, the parent birds having some miles to fly

before they can obtain water. The matter of feeding the young would also be one of great difficulty. This observation applies only to the ground before mentioned.

Larus marinus, *Linn.* Greater Black-backed Gull.

This species is to be seen in small numbers along the coast of "Dee" at most seasons of the year, their favourite nesting-places being the sandy point north of Don-mouth and beside the Black-dog Rock. In winter, when the bird is in greatest numbers, it may be observed there — when the sea rolls high, with the wind blowing in strong and fitful blasts, while rain or snow falls thick around—flying and wheeling in airy circles through the storm. Indeed, I have often watched it under such conditions; and the fact of those bold birds circling around, regardless of the "elemental wars," caused me to forget the storm, and to look back now with the utmost pleasure to "days upon the coast," when the wind blew, the rain poured, with no living creature to be seen abroad, save the Black-backs that flew around and screamed in apparent enjoyment of the tempest.

This species does not breed with us, but Edward says that "eggs of the Great Black-backed Gull have been found on the larger island" in the Loch of Strathbeg.

Larus fuscus, *Linn.* Lesser Black-backed Gull.

Fairly common, but not resident, nor does it breed within "Dee." "A common species." (Horn.)

On June 29th, 1873, I saw a specimen of this bird flying about beside a breeding-place of the Herring Gull about two miles south of Whinnyfold, Cruden, but could not make out if it was nesting, and did not see it alight upon the rocks.

Larus ridibundus, *Linn.* Black-headed Gull. "Pottertown Hen."

Abundant, and breeds in many of our inland lochs. For long it bred in numbers upon the estate of Pottertown, hence the above local name; and it was generally believed by the people living there that the birds were brought from

Photo.] GULLERY AT UPPERMILL, KINTORE. [*Dr. Galloway.*

abroad by one of the owners of the estate. How such an idea could have arisen I have not been able to discover. When this sheet of water was reduced by drainage, the birds left it and attempted to establish a colony in Corby Loch, but owing to the fact of the nests being easily reached by pilfering boys and egg-collectors, the birds have been driven from the place, although a few still persist in the attempt. In 1861 two pairs bred in the pond at Uppermill, near Kintore, and each succeeding year they increased, until in 1902 the number was estimated at seven thousand. In June of that year, I had the pleasure of visiting the pond through the kind permission and in the company of Mr. Tait, within whose shooting it lies, and the number of birds stated above did not seem to be too high. Mr. Tait takes every means to protect the birds during the breeding season, hence the great increase. The pond is used as a mill-dam, and is in extent about ten acres. This includes a large piece of marshy ground at the north end. The chief breeding-grounds are on the muddy islands, which can be reached by boat only. There the nests are placed so close together that in walking one has to be careful not to trample upon the eggs. It is a most interesting sight to see those birds sitting upon their nests, looking like so many balls of snow resting upon the black mud, and no less interesting and instructive is it while they are hovering on wing, screaming loudly the while.

Before the drying of the Loch of Auchlossan, which was effected about 1859, there was a very large colony of Black-headed Gulls there, and since then they have taken up their quarters at the Loch of Braeroddach, a few miles westward.

After the breeding season these birds disperse over the country, chiefly along the coast line, and as winter approaches most of them leave our district, a few only being visible through the winter months.

Spalding, in his *History of the Troubles in Scotland*, p. 256, 1641, says: "It is here to be noted that no maws were seen in the Lochs of New or Old Aberdeen since the beginning of their troubles and coming of soldiers to Aberdeen, who flocked and clocked in so great abundance that it was a pleasure to behold them flying above our heads, yea, and some made use of their eggs and birds; in like manner few or no corbies were seen in either Aberdeens, at the water-side of Dee or Don, or

the shore, where they wont to flock abundantly for salmon gouries."

The lochs referred to have long since disappeared, and in "New" Aberdeen, at least, the ground where the loch lay is now covered with numerous buildings; and although we may still have abundance of "salmon gouries," the "corbies" have gone never to return.

Larus minutus, *Pallas.* Little Gull.

An occasional and irregular visitor.

"A beautiful male specimen of the Little Gull or Maw was shot on the sands, Fraserburgh, 28th June, 1854." (Edward.) This specimen is now in the Elgin Museum.

A specimen was shot at Aberdeen in 1861, by A. Mitchell, and another in 1864 (Taylor's MS.); and on 29th March, 1869, Mr. Mitchell killed one at Don-mouth, which he presented to the late Mr. Robert Gray.

On December 12th, 1874, Mr. Arthur Robb killed one of a party of four at the mouth of the Dee, and on October 26th, 1888, Mr. Andrew Milne obtained an immature specimen at Don-mouth, which he brought to me for identification.

Sub-Family STERCORARIINÆ.

Genus STERCORARIUS, *Brisson.*

[Stercorarius catarrhactes, *Linn.* Common Skua.

"To be seen every winter upon this coast." (Horn.)

Notwithstanding this assertion, I have never seen a "Dee"-killed specimen.]

Stercorarius pomatorhinus, *Linn.* Pomatorhine Skua.

One was shot at Fraserburgh, and another at Dinnet, in 1881, both being sent to me; while a third was obtained at Fyvie, in 1890, by Mr. George Sim.

Stercorarius parasiticus, *Linn.* Buffon's Skua.

A rare straggler. One was shot on Bennachie in 1880, by Captain Brooke, and in 1881 another at Netherdale on the Deveron. Both were forwarded to me.

George Sim, Fyvie, informs me one was shot on October 2nd, 1890, at Blackpool, Millbrex.

Stercorarius crepidatus *Gmelin.* Richardson's Skua.

"A rare visitor." (Horn.) "A few always to be seen about the coast in autumn." (Serle.)

This, without doubt, is the most common Skua upon our coasts, but the majority of them are immature birds. Often have I watched it as it pursued the Gulls, and many a determined attack and equally bold attempt to escape have been witnessed, resulting generally in success for the Skua.

This bird is subject to great variation in colour, some being of a uniform dark greyish-brown over the whole body, while others are light-brown above and whitish beneath. One which was killed at Mennie, in the autumn of 1895, was of the dark form, with the toes and upper-part of the legs black, and tibia and webs a light-blue.

Order TUBINARES.

Family PROCELLARIIDÆ.

Genus PROCELLARIA, *Linn.*

Procellaria pelagica, *Linn.* Storm Petrel. "Mother Carey's Chicken."

This delicate little bird is frequently cast upon the coast of "Dee," and during storms conveyed far inland, where it is often picked up dead or in a dying condition. It is also in numerous instances caught on board vessels, but it has no residence on our coast and does not breed with us.

Porcellaria leucorrhoa, *Vieillot.* Leach's Petrel.

"In December, 1876, one was found dead at Milltimber, and sent to Mr. A. Mitchell, Castle Street, Aberdeen." (Taylor's MS.)

On August 19th, 1884, a female was caught at Girdleness Lighthouse, and brought alive to me. It weighed slightly over 1½ ounces. Its stomach contained many fragments of Copepodæ as also some whole ones—all of which were *Timora*

longicornus, arms of several stalk-eyed Crustaceans, along with small fragments of gneiss and quartz.

I am informed by Mr. George Sim, Fyvie, that one was picked up dead at Rothienorman in 1884.

Genus PUFFINUS, *Brisson.*

Puffinus anglorum, *Linn.* **Manx Shearwater.**

Rare. In 1876 one was taken by a fisherman in Aberdeen Bay, and was purchased by Mr. E. Stoddart Willis, in whose collection it remained until his death.

One was killed at Boddam in 1879, and is still in my possession.

[**Puffinus major**, *Faber.* **Greater Shearwater.**

Mentioned as "rare" by Edward.

I have neither seen it nor heard of its occurrence in "Dee."]

Genus FULMARUS, *Stephens.*

Fulmarus glacialis, *Linn.* **Fulmar.**

A straggler that is by no means of common occurrence on the coasts of "Dee." One was found dead upon the lawn in front of Seaton House by W. Davidson, gamekeeper, in 1860; and in 1890 one was found among the rocks at Muchalls by Mr. L. Esson, who brought the head of the bird to me for identification. Still, although the Fulmar is so rare along the coast line, it seems fairly abundant, and is often brought in by trawl vessels that have been working upon the fishing banks that lie well off the shore throughout the North Sea.

Order PYGOPODES.

Family COLYMBIDÆ.

Genus COLYMBUS, *Linn.*

Colymbus glacialis, *Linn.* **Great Northern Diver. "Ember Goose."**

This beautiful species is rather irregular in its visits to the shores of "Dee," and those that do appear are generally

immature birds. Still, full-grown specimens in fine plumage are occasionally obtained. One such got entangled among the salmon nets in the Bay of Nigg, and was bought from the fishermen by me.

"A most splendid specimen of this bird, in full breeding dress, was found on the sands of Rattray this summer" (1854). (Edward.)

Colymbus arcticus, *Linn.* Black-throated Diver.

During a period of forty years I have never seen but one specimen of this species from the coast of "Dee." This was an immature bird which was shot at Collieston in March, 1891, and was sent to me by Mr. W. A. Clark, teacher, Slains Public School.

["A regular visitor to the coast of Buchan." (Horn.) Edward says it is a "yearly visitor" to the Loch of Strathbeg.

In a paper, entitled "Two Days in Glen Muick," which appeared in the *Cairngorm Club Journal*, January, 1894, p. 67, we are told that "in the evening a large flock of wild geese visited the loch (Loch Muick), causing quite a flutter among the collies; and also of the doings of a *Black-throated Diver* that day, while we were absent on the mountain tops."]!!

Colymbus septentrionalis, *Linn.* Red-throated Diver.

Fairly abundant during winter and spring, and is frequently killed by becoming entangled in the salmon nets. Thus it is not infrequently found lying upon the beach. It does not breed within "Dee," removing further northwards for that purpose; yet I have obtained it in full breeding plumage on the Aberdeenshire coast.

Family PODICIPIDÆ.

Genus PODICEPS, *Latham.*

Podiceps cristatus, *Linn.* Great Crested Grebe.

Rare. A female in beautiful condition was found upon the shore, near Peterhead, and was sent to me by the Rev. Dr. Stewart. It is now in the Peterhead Museum.

Podiceps griseigena, *Boddaert.* Red-necked Grebe.

Not so uncommon as the preceding; several have been obtained within our district.

"Mr. Angus states that he shot a specimen in breeding dress on the 2nd of May, 1867, in Aberdeenshire." (Gray.)

One was shot by Mr. R. Meff at Stonehaven in 1892. One was also killed at the mouth of the Dee in January, 1893, which is still in the possession of Mr. D. Mitchell, Aberdeen.

Podiceps auritus, *Linn.* Sclavonian Grebe.

Rare. One was shot on the lake at Brucklay Castle, and was sent to me. It proved a female. Its stomach contained flies, beetles, grubs, and sticklebacks.

Podiceps nigricollis, *Brehm.* Eared Grebe. Black-necked Grebe.

A specimen of this rare species was shot at Strathbeg on March 2nd, 1898, by R. S. Hills, Esq., who sent it to me for preservation. It is now in the possession of the above-named gentleman. Its stomach was well filled with feathers, amongst which were numbers of the stalk-eyed Crustacean *(Mysis vulgaris)*, showing that, although killed on the loch, it had shortly before been feeding in the sea.

This is the only occurrence of the species within "Dee" to my knowledge.

Podiceps minor, *Naum.* Little Grebe. "Dabchick."

Common, and breeds around most of the lochs throughout the district, a favourite breeding resort being the Bishop Loch.

Family ALCIDÆ.

Genus ALCA, *Linn.*

Alca torda, *Linn.* Razorbill. "Marrot."

Common, and breeds in large numbers at various points

along the coast, the chief stations being Fowls-heugh, the Rock of Dunbuy, and Troup Head.

[**Alca impennis**, *Linn.* **Great Auk. Gare-fowl.**

In the *New History of Aberdeenshire*, speaking of the parish of Foveran, and under the heading "Zoology," the author says: "From the abundance of food on the sleeks in the estuary, the Ythan attracts at all seasons a greater variety of water-birds and sea-fowl than any other river on the east coast of Scotland. The following is a list of those *best known and most abundant*," and in the list the *Alca impennis*, *Blackbilled Auk* (Gare-fowl), appears. It is almost unnecessary to say that the statement is incorrect.]

Genus LOMVIA, *Brandt.*

Lomvia troile, *Linn.* **Common Guillemot. "Quit." "Foolish Guillemot."**

Very common, and breeds in immense numbers in the rocky cliffs usually in the same localities as those mentioned for the Razorbill.

The variety, held as a distinct species by Yarrell and MacGillivray, under the name of *Uria lacrymans*, is also to be seen in small numbers.

I, in company with Mr. Harvie-Brown, visited Fowls-heugh in June, 1880, on which occasion only one specimen of *lacrymans* could be detected, while there were thousands of the common form. Since then, however, several have come into my hands.

Lomvia bruennichi, *Sabine.* **Brunnick's Guillemot.**

The only occurrence of this rare Arctic straggler is one obtained by Mr. James Fraser, Aberdeen, a collector of natural history specimens. He found it in June, 1893, amongst a number of Common Guillemots that had got caught and were drowned in the salmon nets at Belhelvie. Mr. Fraser brought the bird to me for identification, and it is now in my possession.

Genus URIA, *Brisson.*

Uria grylle, *Linn.* **Black Guillemot. "Tyste."**

Considerable diversity of opinion exists as to whether this species breeds on the coast of "Dee." Some are in doubt, others give a distinct negative, and a third group as strongly assert that it does, in limited numbers. I must place myself among the last. In the end of July or beginning of August, 1858, I shot a young one at Troup Head, and am informed by Mr. Davie, keeper on the estate of Troup, that he accompanied a Mr. Hepburn, who was, in 1858 or 1859, on a visit to Troup, to Gamrie Head, and that they shot several Black Guillemots "while they flew from their nests." Here, however, it must be said that, according to the divisions of Scotland made in accordance with the "watershed" theory, Troup Head and Gamrie Head are not within "Dee." They are, however, on its immediate northern border, and for that reason, and the additional one that, in my opinion, they ought to be held as within the district, I mention the fact of the birds being at these two points.

Coming within our own undisputed borders, let us see how the matter stands. Referring to Skelton's *Essays in Romance and Studies from Life* (1878)—not, I admit, a very good source for reliable ornithological information—speaking of Longhaven, the author says, at p. 120: "Peter's friend, the Sutor, is anxious to add the eggs of the *Black Guillemot* to his collection, and Peter knows where the *single pair*, which frequent Longhaven, have this year established their nest." The excellent description the author gives of what he, perhaps, wilfully misnames the "Scart Rock," is evidently intended for the Rock of Dunbuy; and if the author is correct in making Peter and his friend, the Sutor, take the nest of the Black Guillemot there, such a fact would bear out my own impression that it does breed there; but I cannot yet say so with certainty.

Who was "Peter's friend, the Sutor"? Most likely T. Edward, of Banff, as no other "Sutor" has been known to collect eggs in the quarter. And what does Edward say on the subject? In his list of birds that appears at the end of Smiles's *Life of a Scottish Naturalist,* in speaking of the Guille-

mot, etc., he says: "All these species breed with us, but the *Black Guillemot only rarely.*"

In vol. i. of the *Naturalist*, p. 147 (1851), Edward records having received at Banff a specimen of this bird "in complete winter dress," and, about the same time, one from Fraserburgh "in summer or nuptial dress."

In the *N. S. A. for Aberdeenshire* this species is included in the list given for Ythan and district.

Colonel H. M. Drummond Hay, in his "Report on the Ornithology of the East of Scotland, from Fife to Aberdeenshire inclusive," as it appears in the *Scottish Naturalist*, vol. viii., p. 378 (1886), says: "Black Guillemots used to be common outside Aberdeen Harbour; but I do not know of its breeding in Aberdeenshire. When stationed in Aberdeen, many years ago, I had frequent opportunities of observing these birds during the breeding season on the Kincardine coast, along by Cove and Muchalls, and though I never looked for their nests, I always supposed them to breed among the rocks at the foot of the cliffs, as they were there the whole of the season, and I obtained them in all stages of plumage."

In a letter to Mr. Harvie-Brown, the Colonel states that the above observation refers to 1834, and that the birds were "abundant during the whole summer." It will be seen that the Colonel does not positively say that the birds bred, but merely supposed they did; and if they were abundant, they must have bred in considerable numbers. If that were so, matters have been sadly changed, for I can say most assuredly that this species has not bred in the above-mentioned localities these forty years past.

On the 14th of June, 1890, I found the wing of a Black Guillemot, in a fresh condition, by the sea-side, a little to the north of Peterhead. On August 23rd, 1895, an English gentleman shot a young Black Guillemot beside Dunnottar Castle, and two days later he brought it to me for confirmation of the opinion he had formed regarding its identity.

Genus MERGULUS, *Vieillot.*

Mergulus alle, *Linn.* **Little Auk. "Rotchie."**

A common winter visitant; in some seasons in great numbers, especially in 1895, in which year many thousands

were driven by strong winds right into the interior of the country, and were picked up dead and dying all along the east of Scotland. In some bays they lay dead in hundreds.

Genus FRATERCULA, *Brisson.*

Fratercula arctica, *Linn.* Puffin. "Tammie Checkie."

Abundant, and breeds sparingly among the rocks along the Kincardineshire coast, and in great numbers about Slains and the Rock of Dunbuy.

When the breeding season is over, the Puffin betakes itself to sea, where, during winter, small parties are generally to be met with.

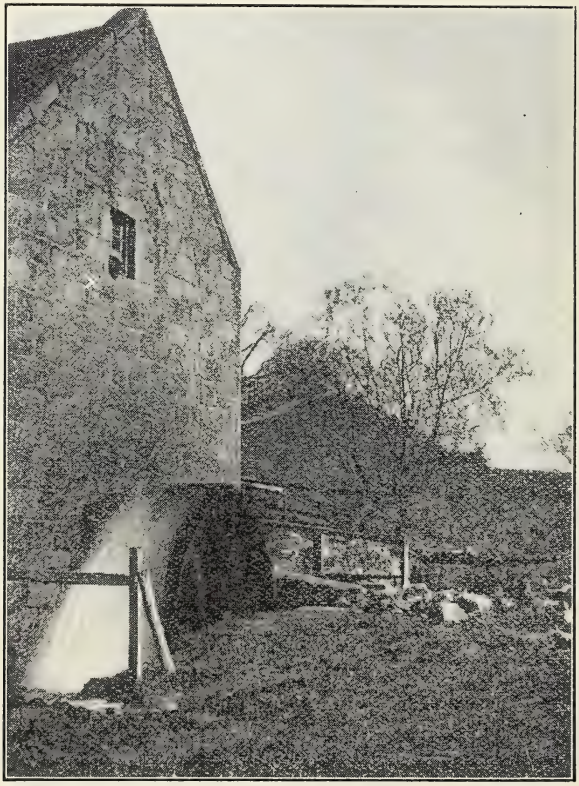

Photo.] WATER-OUZEL'S NEST. [*F. B. Kelly.*

(The position of the nest is marked with an X.)

Class III.—REPTILIA.

Order OPHIDIA.

Family VIPERIDÆ.

Genus PELIAS.

Vipera berus, *Linn.* **Viper or Adder.**

Quite plentiful in most of the inland parts of the district. Along the Dee valley it is numerous.

This, our only venomous species, is looked upon by the inhabitants as very dangerous, and certain death to those who have the misfortune to be bitten by it; and many tales are told of people having met their death from its attack. Although this is so, no thoroughly reliable case has come under notice in so far as man is concerned. It is, however, a fact that in the case of dogs bitten by the Adder, death overtakes them usually on the third or fourth day afterwards. A case in point is that of a dog belonging to the late James Thomson, keeper to the Marquis of Huntly. In the month of August, 1888, this dog got bitten in the throat, and by the second day the neck and head of the animal were swollen to double their normal size, and on the fourth day he died.

In the *N. S. A. of Kincardineshire*, under parish of Banchory-Ternan, p. 335, we are told that "specimens of a Serpent, upwards of four feet long, have several times been found; but whether it be the Adder at an advanced stage of its growth, or whether it is a distinct species, is unknown." Needless to point out, we have no authentic record of any other species of Viperidæ in Scotland.

Family COLUBRIDÆ.

Genus CORONELLA.

[**Coronella lœvis,** *Boie.* **Smooth Snake.**

"There is another species said to have been found with us called the Smooth Snake *(Coluber lœvis)*. I have never seen one met with here. I once heard of one, said to be of this kind, which was killed near Tomintoul. On making applica-

tion, I got a sight of the skin, but found it to be that of the common Adder, though a rather strangely-marked one. But it does not follow from this that the Smooth Viper is not an inhabitant of the county. I am sore mistaken if it has not been got in Aberdeenshire, and why not in Banffshire?" This is a loose haphazard statement of Mr. Edward on which no reliance can be placed.]

Genus TROPIDONOTUS.

[**Tropidonotus natrix,** *Dum. and Bibr.* **"Common Snake." "Ringed Snake."**

Several specimens of this species have been killed in and around Aberdeen, but in most cases they have been proved to be individuals that have escaped from confinement and which had originally been brought from England.

Although we have not the "temerity to deny its occurrence in Scotland," it may with safety be said that a properly authenticated instance of the occurrence of the Ringed Snake in a truly wild state within "Dee" has yet to be found.]

Order LACERTILIA.

Family LACERTIDÆ.

Genus LACERTA.

Lacerta vivipara, *Dum. and Bibr.* **Common Lizard. "Heather Ask."**

Common everywhere, from the sea coast to the interior of the country. This inoffensive creature is held in great dread by the rural population, and at one time, not long gone by, was credited with the character of being able to cause the death of their cattle. This it was believed to do by entering their mouth while the cattle were feeding, and afterwards causing great pain in the stomach, resulting in death, if incantations of some "canny" man or woman were not successful in inducing the "Ask" to take its departure.

[**Lacerta viridis,** *Linn.* **Green Lizard.**

The statement that the Green Lizard is a native of Scotland is one still requiring confirmation. Although it is

said that "a professor of the University of Edinburgh had dissected a Green Lizard brought by a botanical party from the Clova Mountains," yet, even with this before us, the matter remains under some degree of uncertainty. Still, I am in the belief that I have seen the Green Lizard in "Dee." In 1850, while wandering in the wood of Arnhead, parish of Auchterless, a newly-killed Lizard was found lying upon the stump of a tree that had been cut down the previous day. This Lizard was different from others I had seen and caught the same day, the difference being that the dorsal surface was studded with patches of bright shining green, the under surface being orange yellow, showing a striking contrast to the more numerous common variety. As the specimen was not preserved, however, nothing is proved by this, and it is merely mentioned with the view of causing observers to be on the outlook for any form of Lizard showing similar markings.

It may here be mentioned that around Aberdeen various species of Lizards may yet be found, as has already happened, several of which have come under my notice. These, however, have in every case been obtained about Aberdeen Harbour, where esparto grass had been imported, and about Waterton Works, where this material is used in the manufacture of paper.

In Edward's *Reptiles of Banffshire*, p. 10, is the following: "We now come to our Heath Lizards. . . . Of these we have two kinds, the Green *(Lacerta vivipara)* and the Sand Lizard *(L. agilis)*. I have come across both. . . . The Green Lizard is the more plentiful of the two with us."

CATAPHRACTA.

Order CHELONIA.

Family CHELONIDÆ.

Genus CHELONIA.

Chelonia imbricata, *Schw.* Hawks-bill Turtle.

"A specimen of this species was caught in a salmon net at Pennan, August 1st, 1861, and was sent to Mr. Anderson, 1 Trinity Quay, Aberdeen, and that gentleman presented it to

the University Museum, Aberdeen, where it is still preserved. Another specimen was caught also in a salmon net, and about the same time, at Greenside, a few miles east of Macduff, and was presented by the Earl of Fife to Banff Museum." (Edward.)

Family ANGUIDŒ.

Genus ANGUIS.

Anguis fragilis, *Linn.* **Blind-worm. Slow-worm.**

Fairly common along the Dee valley, especially in the neighbourhood of Ballater, where I have found it amongst heaps of stones and rubbish. The present state of knowledge does not warrant its being said that the Slow-worm is generally distributed over "Dee." It has, however, been caught on various occasions in the parish of Fyvie.

Class AMPHIBIA.

Order BATRACHIA.

Family BUFONIDÆ.

Genus RANA.

Rana temporaria, *Linn.* **Common Frog. "Paddock." "Podduck." "Puddock."**

Common in every suitable locality, but is decreasing in numbers on account of the improvements that have been effected over the district on grounds where the Frog formerly abounded. As is said by authors, Frogs begin to deposit their spawn "about the beginning of March." This, however, depends upon the nature of the season, *i.e.*, cold or warm; but, speaking generally, the beginning of that month is the usual time, and by the end of July the spawn has passed through its various transformations and become "little Frogs," having all the appearance of their parents, except bulk. This, in a general way, is also true; but we find that, by some cause which cannot be explained, some remain in the tadpole state during winter. On January 19th, 1896, my

friend, Mr. John Mearns, found in a pool in the moss of Whitestripes a tadpole alive and in good condition, it still having the tail, and only the hind feet developed. In this state he very kindly showed it to me.

MacGillivray mentions a Frog to which he gives the name *Rana ericetorum* (Heath Frog). This form, he says, is found "in the glens and on the hills up to the height of three thousand feet above the sea." Then follow particulars as to the differences between *R. temporaria* and "this species." The present writer has not seen the latter form, although he has caught Frogs in some of the glens that run up to fully three thousand feet above the sea-level. In any case, it does not seem likely that the Heath Frog can be admitted to specific rank.

Rana esculenta, *Gesn.* The Edible Frog.

In the list of reptiles given for the parish of Banchory-Ternan in the *N. S. A. of Kincardineshire*, the Edible Frog finds a place; and Edward, in his *Reptiles of Banffshire*, p. 19, refers to what he believes was the Edible Frog, "which differed materially in size and colour from the common one, and never was, so far as I can recollect, now associated with them."

It need scarcely be said that even now it is an unsettled point as to whether this species is indigenous to Britain or not.

Genus BUFO.

Bufo vulgaris, *Laur.* Common Toad. "Taid." "Tade."

Abundant all over the district, but suffering diminution from the same cause as that referred to in the case of the Common Frog.

Family SALAMANDRIDÆ.

Genus LOPHINUS.

Lophinus palmatus, *Dum. and Bibr.* Palmated Newt. "Water Ask" or "Esk."

This species is most abundant and widely distributed throughout "Dee." It is found in ponds in disused quarries,

as also in pools high up our hill-sides, and in black stagnant peaty holes, and, at other times, under stones at considerable distances from water.

[Lophinus punctatus, *Gray.* Smooth Newt. "Water Ask" or "Esk."

Under the heading "Zoology," as given for the parish of Banchory-Ternan, in the *N. S. A. of Kincardineshire,* it is said that "there are the *Triton aquaticus* and the *T. palustris,* the Water and the Warty Eft;" but as *T. aquaticus* and *T. palustris* are both names by which the great Water Newt *(Triton cristatus)* was at one time known, and as it has yet to be shown that the "Water and Warty Eft" exist in "Dee," the statement is valueless, for, after five years' close and careful search over our district, including the parish named, as also Scotston Moor, where, more recently, *T. aquaticus* is reported to exist *(History of Scotston Moor,* p. 23), no species of Newt have been found by me other than *L. palmatus.*]

Photo.] NEWT-CATCHERS. [*Mearns.*

FISHES OF THE EAST COAST OF SCOTLAND,

FROM WICK TO EDINBURGH.

Photo.] MENDING THE NETS. *[Mr. Norrie, Fraserburgh.*

BRITISH MUSEUM
NATURAL HISTORY

FISHES OF THE EAST COAST OF SCOTLAND, FROM WICK TO EDINBURGH.

THE following list has been compiled by the author from the lists of those who have preceded him, and from his own observations; and he has preserved, and now possesses, nearly every species that has come under his notice.

As already mentioned, the arrangement followed is pretty much the same as that of the late Dr. Day in his work on the *Fishes of Great Britain and Ireland*, although in some cases the writer has struck out in a way that to himself seems best. In the case of the *Salmonidæ*, it has been deemed necessary to take this course, for, although more attention has been given to this group of fishes than to any other of our indigenous species, there is at the present moment, perhaps, less real knowledge available concerning it than any other form of fishes we possess. Volumes have been written, each professing to give the true state of affairs, and each almost in direct opposition to all that had preceded it. Year after year we have been flooded with literature upon the various forms of trout, some building up the species from external form and colour, while others have as confidently proclaimed that they can show from external examination what numbers of species exist in our waters. The number of vertebræ has been held as an unfailing rule by which species can be determined; while yet another class of writers take the number of cæcal appendages as the true specific distinction, each writer never failing to give names to his several "species," so that now the names and synonyms are of such magnitude as to stagger the most determined student

anxious to reach some definite point in this labyrinth of confusion. I have, however, been forced to conclude that none of these methods can be taken as an unfailing guide to species, because external form and colour depend upon the amount of food and the nature of the water and ground in, and upon which, the fish has lived. It is a well-known fact that trout living in a stream or loch, where food is scanty, are long and lanky, having usually a large unshapely head; and if, in addition to this, the water and ground are of a dark colour, the fish will be correspondingly black. As an example, I caught some trout in a small mossy burn at the foot of Lochnagar that were almost black. Had it not been that the edge of each fin had a thin line of chalky white, it would have been almost impossible to have seen the fishes, so near were they in colour to the surrounding mossy matter. Yet, farther down this stream, after it had been joined by others of a less peaty character, and consequently of much clearer water and lighter bottom, the fishes there were correspondingly lighter in colour. Regarding the number of cæcal appendages: I procured for special examination fifty-five trout, taken in various burns and rivers throughout the counties of Kincardine, Aberdeen, and Banff. The fishes ranged from three-quarters of an ounce to ten and three-quarter ounces, and the cæcal appendages ranged from thirty-eight to sixty-nine, the two extremes being found in the same stream. It will thus be seen that the number of cæca cannot be taken as an index to species. The number of vertebræ, however, seems to be more constant, ranging from fifty-eight to sixty. All things considered, it seems safe to conclude that our trout, one and all, are merely varieties one of another. This is confirmed in no small degree from the facts pointed out by Professor Rasch "that the ova of the sea and river trout are developed regularly, whichever form were the parent ones, and that the offspring were fertile. That the

ova of the char, fertilised by the milt of the trout, thirty to forty per cent. were developed. . . . Salmon ova, fertilised with trout milt, yielded thirty to forty per cent. of young fish; but more, if the milt of the char were employed." It is therefore considered unnecessary to enumerate the long list of names given to trout in the various districts throughout "Dee." Again, in the case of the *Gasterosteidæ:* This is a most perplexing genus, and one that has been divided and subdivided into an endless number of species. In 1880, Dr. Günther held that "about ten species are satisfactorily known." Dr. Day, in his *Fishes of Great Britain and Ireland*, vol. i., p. 237, says: "It appears remarkable how many species have been named of sticklebacks outnumbering even those of the *Salmonidæ* of the fresh waters. . . . It appears to me that our British *Gasterostei* consist of merely three species, which are subject to an almost endless variation in colour and form." This seems to me to be about the true state of the matter. The *Syngnathidæ* is another subject of perplexity, to which, unfortunately, Day has added his stone to the already huge cairn of confusion. What is gained by the names *Siphonostoma* and *Nerophis*, introduced by this author over *Syngnathus*, the name by which the genus was previously known? Until a good and sufficient reason be given for their adoption, I will keep to the old appellation.

The question has been asked, Why this continued changing of names? Nothing appears to be gained by it; and the only result I can see is that the various writers on British Ichthyology are less clearly understood, and, in some cases, utterly incomprehensible. That being so, the words of Professor Sir W. H. Flower are here most appropriate: "Ill-considered attempts at precision of nomenclature are often sources of confusion and future difficulty. As Huxley has truly said, 'It is better for science to accept a faulty name, which has the merit of existence, than to burden

it with a faultless newly-invented one.'" *(The Horse, a Study in Natural History*, p. 56.) Again, at p. 71 of the same excellent work, he says: "Every change in the limit of a genus involves some of those endless changes in names which are among the greatest causes of embarrassment in the study of Zoology in modern times, and do much to repel beginners from entering upon it." This is most true, and not less applicable is it in the case of the *Raiidæ*, for there is, perhaps, no group of fishes that has undergone more changes of nomenclature than the one just named, except, perhaps, the *Salmonidæ;* and the confusion that still exists is almost sufficient to deter anyone from undertaking the labour of attempting to bring the matter into anything like understandable form.

In this, as in other Ichthyological difficulties, external form and colour have been looked upon as sufficient to determine specifically every form of ray known to British waters; but this is an entire fallacy. It would be quite as reasonable to say that a white horse and a black one are different species. If colour, with the absence or presence of spines, in the case of *Raia clavata*, would make species, at least a dozen more might be added to the list from this one species alone, so greatly does it vary. On such points no reliance can be placed. To me, structural differences are of more importance in determining species, but this entails an amount of labour which no British author seems to have undertaken or even thought necessary; and the consequence has been that whenever a fish has been found that wanted some spine, or had an additional one, or whose colour was somewhat different from that given by previous authors, the finder at once rushed to the conclusion that here is a new British species—till now quite overlooked—the result being that a new name is applied, perhaps a new genus created, thus making chaos more chaotic.

Class IV.—FISHES.

Sub-Class *TELEOSTEI.*

Order ACANTHOPTERYGII.

Family PERCIDÆ.

Genus PERCA, *Artedi.*

Perca fluviatilis, *Rondeletius.* **Perch.**

In the *O. S. A.* for the parish of Spynie (1794), we find that in the Loch of Spynie "there are also Perch and Trout." Skene Keith, in his *Agriculture of Aberdeenshire*, p. 73, says: "Perch were in the ponds at Pitfour prior to 1811."

According to the *N. S. A.*, Aberdeenshire, "Perch were first introduced to the Loch of Strathbeg by the present proprietor, from the late Mr. Ferguson of Pitfour's pond." "A few have been caught in the River Ugie, which have escaped from the ponds of Mr. Ferguson of Pitfour." (Arbuthnot's *Account of Peterhead*, p. 19, 1815.)

In the *Glasgow Geography*, vol. i., p. 324 (1819), it is said that along the east of Scotland "every lake affords Pike and Perch."

Notwithstanding the above, a writer in *Charlesworth's Magazine*, vol. i., new series, p. 118 (1837), signed "W. L.," says: "There are no Perch north of Perth."

This species is now widely distributed—in lochs, rivers, and small streams—throughout the north-east of Scotland.

Genus LABRAX, *Cuv.*

Labrax lupus, *Cuv.* **Bass.**

Edward, in his "Banffshire Fauna," p. 417, in Smiles's *Life of a Scottish Naturalist*, says: "This is a rare species with us, only three having come under my notice." "Now and then makes its appearance in the Firth of Forth." (Parnell.)

There is a locally-caught specimen in the Montrose Museum. One was caught in the salmon nets in Aberdeen Bay in May, 1881, and another by the same means, in the same locality, on May 21st, 1883. The latter was a female, laden with spawn, ten pounds in weight, and measured thirty inches in length. Both are in my possession.

"One was caught by trawl on Aberdeen Bank," and brought to our Market, October 29th, 1898—*(Aberdeen Evening Express).*

Genus ACERINA, *Cuvier.*

[Acerina vulgaris, *Cuv.* **The Ruffe or Pope.**

"One is said to have been obtained off Troup Head about forty-two years ago." (Edward.) Who said so is not stated. Any fish obtained at the time mentioned is more likely to have been *Sebastes norvegicus* or *Scorpæna dactyloptera* than *Acerina vulgaris.* The latter being a fresh-water species, off Troup Head is not a likely situation to find it in.]

Genus DENTEX, *Cuv.*

Dentex vulgaris, *Cuv.* **Four-toothed Sparus.**

Arbuthnot, in his *Account of Peterhead,* p. 19, gives the name "*Sparus raii rigg,* Toothed Gilt Head. A few specimens of this fish have been driven on shore upon our coast for two or three years. They are a most beautiful fish, and their taste more delicate than the finest herring."

"I am only aware of one specimen, which was taken off Troup Head." (Edward.)

Family MULLIDÆ, *Swainson.*

Genus MULLUS, *Linn.*

Mullus barbatus, *Linn.* **Red Mullet.**

Occasionally brought in by trawlers, as also *Mullus surmuletus,* which is now considered merely a variety of *barbatus.*

Family SPARIDÆ, *Cuv.*

Genus CANTHARUS, *Cuv.*

[Cantharus lineatus, *Thomson.* **"Black Bream." "Old Wife."**

"A few of these are generally procured every autumn or about the beginning of winter." (Edward.)]

Genus PAGRUS, *Cuvier.*

Pagrus auratus, *Steind.* **Gilthead.**

Edward observes: "I have only seen two specimens of this fish which have been procured with us. The one was taken off Buckie in 1841, and the other was brought on shore at Portsoy in 1839."

One under the name of *Sparus auratus* is in Dr. Fleming's collection, Arbroath Museum, which, he says, was caught in the estuary of the Tay in August. The state of the specimen was such as to make identification very difficult when seen by me. Day, in his *British Fishes,* says that "Fleming's specimen is more likely to be *Pagellus centrodontus.*"

Genus PAGELLUS, *Cuvier.*

Pagellus centrodontus, *Cuv. and Val.* **The Sea Bream. "Perch."**

In Parnell's *Fishes of the Firth of Forth* (1839), p. 208, it is said: "In the Firth of Forth very little is known regarding this fish, as its appearance there is of rare occurrence. Two specimens, however, have been noticed in the Forth: the one was taken with a line bated for cod, near Inchcolm, in the month of July; and the other was found in a salmon net above Queensferry."

In Couch's *History of the Fishes of the British Islands,* vol. i., p. 238, he remarks: "It is known from one extremity of the

United Kingdom to the other." Edward says: "Numbers appearing annually." Day observes: "In Great Britain this fish has a range from one extremity to the other, abounding especially along the southern and western coasts, but decreasing in numbers as we go north."

This species is abundant along the east coast, and is taken in numbers by line-fishermen during the summer months, and known by them as Perch or Sea Perch. It is also caught by trawl throughout the year. It is inferior as an article of food.

Pagellus bogaraveo, *Cuv. and Val.* Spanish Bream.

One was caught by trawl six miles off Tod Head, Kincardineshire, December 3rd, 1901, and brought into Aberdeen Market, where I found it.

Another was obtained twelve to fourteen miles off Aberdeen, January 31st, 1903, and kindly presented to me by Mr. Thomas Davidson, fish-salesman. It may be noted that in Day's figure the ventral fins look as if they had been cut straight across, whereas the outer extremity is pointed and longer than the inner.

Pagellus owenii, *Günther.* Axillary Bream.

"A specimen caught in the Firth of Forth, in a salmon net, near Musselburgh, in the early part of July. A few days after a second specimen was taken from the same place. It appears to be an addition to the British Fauna, since no instance has hitherto been recorded of its occurrence on the coast of Britain." (Parnell.) Thus the matter rests till the present day.

Pagellus erythrinus, *Cuv.* Pandora. King of the Breams.

"In the Firth of Forth I have seen it once, where a fine specimen, nineteen inches in length, was captured in a salmon net near Musselburgh." (Parnell.)

Family SCORPÆNIDÆ.

Genus SEBASTES, *Cuvier.*

Sebastes viviparus, *Kroyer.* "Norway Haddock. "Bergylt." "Jerusalem Haddock." "Runkie."

Four examples of this species were brought into Aberdeen Market, October 24th, 1892; though, since the advent of trawling in Aberdeen, this is by no means an uncommon species, it being frequently brought in by the hundredweight.

A considerable amount of doubt hangs around this fish. Collett holds that it is merely a variety of *S. norvegicus*, and Day follows him. Kroyer and Lutken take the opposite view, believing it to be a distinct species; but from the numbers I have examined—of both forms—I have no doubt that they are identical.

Day says: "It has been asserted that the young come forth alive." Couch remarks of the young: "It is even supposed, on good evidence, that they proceed from the mother alive." I am in a position to state that the young *are* brought forth alive, having in my possession a female in which the young are ready for expulsion, and were all alive when the fish was obtained, each young one being about one-fourth of an inch long. This specimen was caught on April 18th, 1887. Again, on June 26th, 1901, I had eight others in the same condition.

Scorpæna dactyloptera, *Günther.*

This is an abundant species on the east coast of Scotland, but local. It is caught in numbers off Fraserburgh; one hundredweight was caught there by line in 1889, some of them being from eighteen to twenty inches long. Thirty-nine were taken by trawl, off Troup Head, May 19th, 1890; and on June 23rd following two hundredweights were caught by trawl off Kinnaird Head. Again, on July 9th, four and one-half hundredweights were got by trawl off Troup Head; and in the same locality, by the same means, on 22nd July, one hundredweight. On March 26th, 1891, two hundredweights were caught by trawl off Buchan Ness, and two hundredweights from same locality, May 13th, 1892. This was

followed on November 5th, 1892, by four hundredweights, also off Buchan Ness. Besides these, many small lots have been brought to land, and all from the same localities. This fish seems to keep beyond the forty-fathom line. As an article of food, it is excellent.

This species has a striking resemblance to *Sebastes*, but may be readily distinguished from it by its deep blue mouth, that of the *Sebastes* being white.

Family COTTIDÆ.

Genus COTTUS.

Cottus scorpius, *Linn.* **Short-spined Cottus. "Gunplucker."**

Occasionally cast on Aberdeen beach after storms, and also brought in by trawlers.

Cottus bubalis, *Euph.* **"Father Lasher." "Long-spined Cottus." "Goudie." "Cuntack." "Gunplucker." "Cumper."**

An abundant species; found in every rock pool, and often cast upon the beach after storms.

Cottus grœnlandicus, *Cuv.* **"Greenland Father Lasher."**

This is a doubtful species; some contend that it is only a variety of *C. bubalis*, while others hold it to be a distinct species. Among the latter was the late Mr. Couch, to whom I sent specimens, which he pronounced to be genuine *C. grœnlandicus*. The distinguishing character between *C. bubalis* and this form are sharp papillæ above the lateral line, spinous processes on the inner surfaces of the pectoral fins, and round white spots along the abdominal surface. As these features are not, however, always all present, I am inclined to the former belief. Examples have been found in which only the papillæ above the lateral line and the spinous processes on the pectoral fins were present; while in others, the white spots along the belly were the only variation from the type.

Cottus quadricornis, *Linn.* Four-horned Cottus.

Edward says: "I have never found this species but in the stomach of other fish, which leads me to conclude that they generally inhabit deep water."

I have never had the fortune to obtain *C. quadricornis* from the east coast, but have one from the Pentland Firth.

Genus TRIGLA, *Artedi.*

Trigla lineata, *Gmel.* Streaked Gurnard.

Up to the publication of Dr. Day's work on British fishes, only two specimens of the Streaked Gurnard had been recorded for Scotland—"One at Ayr, and a second, in October, 1844, at Glasgow." I am enabled to place this pretty and interesting fish amongst the east coast Marine Fauna, one having been found by Mr. Herbert Howell, in a trawl net, eight or nine miles off Stonehaven, on January 13th, 1896. Mr. Howell presented it in a fresh condition to me, and it is still in my possession.

Trigla cuculus, *Linn.* Red Gurnard. "Gowdie."

Not uncommon; caught both by line and trawl. As an article of food, it is not held in great esteem.

Trigla hirundo, *Linn.* Sapphirine Gurnard. "Gowdie."

Not uncommon; caught throughout the year by trawl, and by lines during summer.

Trigla gurnardus, *Linn.* Grey Gurnard. "Gowdie." "Crooner."

Abundant; caught by line-fishers during summer, but the largest numbers are obtained by trawl, when frequently a ton-weight is brought to market by one vessel, and this at all seasons of the year. Not esteemed as food by the people along our coasts. The form named *Trigla blochii* is now believed to be nearly a variety of the above.

[**Trigla pœciloptera,** *Cuv.* **The Little Gurnard.**

Edward says: "Somewhat rare. I remember once taking one from the stomach of a Great Northern Diver, which was shot between Findochty and Speymouth." Couch describes this fish as a distinct species, but Day puts it down as the young of *Trigla herundo.*]

[**Trigla obscura,** *Linn.* **"Long-finned Captain."**

In Dr. Howden's list this fish is marked as local, and a specimen is in Montrose Museum, but neither date nor locality is given. Information on this point is very desirable, as the species is not yet recorded for Scottish waters.]

Family CATAPHRACTI.

Genus AGONUS, *Bloch.*

Agonus cataphractus, *Günther.* **Armed Bull-head. "Miller's Thumb."**

Abundant; often brought in by trawl, and very frequently cast upon the beach after storms.

Genus PERISTETHUS, *Kaup.*

[**Peristethus cataphractum,** *Kaup.* **Armed Gurnard.**

Like the preceding, this species is included as local by Dr. Howden, but like it there is yet no Scottish record of its occurrence along our coast.]

Genus TRIGLOPS.

Triglops murrayi, *Günther.*

This fish was first made known as British by Sir John Murray, who caught it off the Mull of Cantyre and the Island of Sanda in 1887-88, and was described and figured in the *Proc. Roy. Soc., Edinburgh* (1889), by Dr. Günther.

The first specimen for the east coast of Scotland was

caught by trawl, fourteen miles off Aberdeen, on October 1st, 1890, since which time many others have been obtained by the same means off the coast of Kincardine and off Montrose, the majority of which have come into my hands. Indeed, since the foregoing was written, at least a dozen specimens have reached me, all caught off Aberdeenshire.

The creature frequents hard and sandy ground, and is caught always where *Echina* are abundant. Six specimens came to hand on January 7th, 1898; five of these were females, three of which were laden with spawn so ripe that it would have been shed in a few days. This spawn was of a very light transparent yellow, and each egg considerably larger than that of the herring. In the other two fishes the spawn was not so far advanced. From these facts, the time of spawning is the months of January and February. The stomachs of the females, having the ripe spawn as well as the others well advanced, were filled with crustacea, viz., *Hippolyte spinus*, *Crangon vulgaris*, and *Pandulus annulicornis*. It is thus evident that the statement often made that fish do not feed when full of spawn is erroneous.

Family PEDICULATI, *Cuvier.*

Genus LOPHIUS, *Artedi.*

Lophius piscatorius, *Linn.* "**Fishing Frog.**" "**Cathie.**" "**Angler.**" "**Sea-devil.**" "**Monk-fish.**" "**Wide-gab.**" "**Kethrie.**" "**Kethek.**"

"In the Firth of Forth the Angler is frequently taken both by hook and net, and is common in almost every part of the estuary." (Parnell.) "Is frequently met with, but is not used as an article of food." (Edward.)

This is one of the most common fishes along our coast, but seldom, if ever, caught by line. It is frequently cast upon the beach during storms, and is caught in immense quantities by trawl-fishers. Many tons are brought into Aberdeen Market yearly. It is never used as food along the north-east coast; still, when properly cooked, it makes a very good article of diet.

Family TRACHINIDÆ, *Risso.*

Genus TRACHINUS, *Cuvier.*

Trachinus draco, *Linn.* The Great Weiver. "Muckle Stanger."

Not included in Parnell's list for the Firth of Forth, nor by Arbuthnot for Peterhead.

"A single specimen of this fish has been recorded." (W., "Contributions to the Ichthyology of Banffshire," in the *Naturalist*, vol. v., p. 207, 1855.)

"This species is of rare occurrence with us." (Edward.)

This is, however, a fairly common species all along the east coast, frequenting deep water, from which it is brought both by line and trawl.

Trachinus vipera, *Cuv.* Lesser Weiver. "Stanger."

Not noticed by Arbuthnot at Peterhead.

"Not abundant; one was procured a few years ago entangled in the salmon nets near Banff." ("Contributions to the Ichthyology of Banffshire," by W., *The Naturalist*, p. 230, 1854.) "It has been met with in the mouth of the Tay, but very seldom seen in the Firth of Forth." (Parnell.) "Specimens of the Little Weiver are not infrequently met with." (Edward.) "Found along the sandy shores of the east coast; taken by the seine-net at Little Ferry." *(Fauna of Sutherland*, 1887.)

This is an abundant species, frequenting sandy bays, where it is a source of fear and trouble to fisherwomen while fishing for sand-eels. While thus occupied, they frequently trample upon the Weiver, and consequently get wounded by its sharp dorsal spines, causing great swelling, inflammation, and pain. The fisherfolk generally have the opinion that if stung with the Weiver when the tide is at its height, the pain will not abate until the tide is again at its lowest; or if stung when the tide is low, they will have to suffer until high-water is reached; but whenever wounded, six hours must elapse before they can hope for relief. The Weiver is often cast upon the beach after winter storms.

Family SCOMBRIDÆ, *Cuvier.*

Genus SCOMBER, *Artedi.*

Scomber scomber, *Linn.* The Mackerel.

Fairly abundant all along the east coast, and is caught by line and artificial fly during summer and autumn; in recent years many have been landed by trawlers.

Genus ORCYNUS *(Cuvier), Lutken.*

Orcynus thynnus, *Linn.* The Tunny.

"Several specimens of this fish have from time to time been taken with us. A very large one was captured in a salmon net at Portsoy. It measured over nine feet in length." Edward.

In the late Dr. Gordon's "Fauna of Moray," *Zoologist*, 1852, pp. 34-55, he mentions the above under the name of *Thynnus vulgaris*, and says: "In the summer of 1850 several individuals of the shoal or herd which seemed to have approached Britain that year were met with in the Moray Firth; first one, killed at Portsoy in a salmon net, measured nine feet in length; another, at Clachnahary, near Inverness, measured five feet."

One was caught at Newtonhill, Kincardineshire, in a salmon net, August 18th, 1876, and is now in my possession. The skull of this species is occasionally brought in by trawl and line-fishers, and I found it on one occasion cast on the beach at Aberdeen.

Genus THYNNUS *(Cuvier), Lutken.*

Thynnus pelamys, *Cuv.* Bonito.

In the *Elem. Nat. Hist.*, vol. i., p. 363, and on the authority of Mr. C. Stewart, this fish is recorded as having occurred in the Firth of Forth.

One was caught at Kirkside, 1859, and is now in Montrose Museum.

Genus PELAMYS, *Cuvier.*

Pelamys sarda, *Cuv.* **Belted Bonito.**

One was caught at Buddon, near Montrose, in 1885, and is now in the Museum there.

Genus AUXIS, *Cuv.*

Auxis rochei, *Günther.* **Plain Bonito.**

"Several of these have now come under my notice. One, taken in a herring net, off Cullen, measured over twenty inches in length, and twelve inches in circumference behind the first dorsal." (Edward.)

Family STROMATEIDÆ, *Swainson.*

Genus CENTROLOPHUS, *Lacepede.*

Centrolophus pompilus, *Cuv.* **Black Fish.**

"A specimen of this very rare fish was caught in a net at Lossiemouth in 1841." (Gordon.)

On August 31st, 1887, one was caught by trawl twenty miles off Aberdeen—length, twenty-three and one-half inches —and is now in my possession. Dr. Howden, in his list, includes this fish as "local," but when or where caught, or where now to be seen, he does not state.

Family CORYPŒNIDÆ, *Swainson.*

Genus BRAMA, *Risso.*

Brama raii, *Schn.* **Ray's Bream.**

According to Parnell, this species has "occurred in the Firth of Forth frequently."

One was caught in Peterhead Bay and placed in the Museum there by the late C. W. Peach, December 30th, 1850. One was taken in Gamrie Harbour, October 24th, 1851—(G. Harris, *Zoologist*, p. 3301.) One was caught in Aberdeen Bay, 1857, and is now in the collection, Marischal College Museum, Aberdeen.

Edward merely makes the remark "rare," but does not say that he has ever seen a specimen. There is a specimen in Montrose Museum that was caught at Kirkside in 1850. There is an example under the name of *Brama marina*, from the Firth of Forth, in Dr. Fleming's collection, now in the Arbroath Museum.

"A specimen occurs in the University Museum," St. Andrews. (M'Intosh.) Donovan mentions one as having been "found on the shore near St. Andrews in 1782."

Genus LAMPRIS, *Retzius.*

Lampris luna, *Risso.* **Opah. King Fish.**

This fish has long been known in British waters. The first notice of it was that by Sibbald of one got in the Firth of Forth in 1664. Specimens exist in the Museums of Edinburgh, St. Andrews, Montrose, and Peterhead. Many have been brought into Aberdeen Market within recent years, but the majority were caught on the west coast. "It has been found at Boddam, Troup Head, Blackpotts, Portsoy, Buckie" —(Edward); "Portgordon and Nairn"—(Gordon).

Family CARANGIDÆ, *Günther.*

Genus CARANX, *Lacepede.*

Caranx trachurus, *Lacep.* **Horse Mackerel. "Scad." "Buck Mackerel."**

"We have seen a few specimens of these fishes, but they are rare." (Arbuthnot.)

"Is not very numerous, and is seldom used as an article of food." (Edward.

This species is well known all along the east coast. During summer it is frequently caught by hook and line, and in some years it is caught in numbers by trawl. It is, however, irregular in its appearance. During the summer of 1883 large numbers were caught and brought into Aberdeen, since which time they have been rather scarce.

As these fishes are looked upon as valueless as an article of food, I had every opportunity afforded me of examining

them while they were in such abundance in the year above referred to. At this time some were examined every day, the aggregate amounting to several hundreds, in every one of which the same appearance presented itself, viz., the stomach and intestines were embedded in a thick gritty mass, which lay along the abdomen, almost filling the whole cavity. This mass, on examination, was found to be an accumulation of parasites in all stages of development—life, death, and decay; for here we have the egg with the embryo just making its appearance within; others where the worm is seen coiled in several circles upon itself; while again the empty shells are in abundance, and the large fibrous mass is made up of the skins of those that have run life's course. Through the whole of these "memorials of the dead" are seen the perfect creatures wriggling in full vigour of life. Still, the fishes were in good condition and apparently in perfect health.

Genus NAUCRATES, *Cuvier.*

Naucrates ductor, *Cuv.* The Pilot Fish.

"A very fine specimen of this rare and rather peculiar fish was taken in our bay about forty years ago." (Edward.)

[In showing some fishermen Yarrell's *British Fishes*, they identified the Sword-fish, and remarked that they had frequently seen it in the Firth. (W., "Contributions to the Ichthyology of Banffshire," *Naturalist*, vol. v., p. 207.)]

Genus CAPROS, *Lacepede.*

Capros aper, *Lacep.* Boar-fish.

Howden includes this fish as local, but gives neither locality nor date.

"One obtained at Lossiemouth in 1839, and sent to Elgin Museum." (Gordon.) "One taken in bag-net, near Crovie, in August, 1862." (Edward.)

Two were caught in the Firth of Forth, 1892, and are now in the Museum of Science and Art, Edinburgh. There is one in Peterhead Museum, without locality or date given, but said to be local.

Family CYTTIDÆ, *Kaup.*

Genus ZEUS, *Cuvier.*

Zeus faber, *Linn.* Doree, or John Dory.

"Of these fishes we have only seen two specimens upon our coast." (Arbuthnot.)

"In the Firth of Forth seldom more than one or two are seen in the course of the year." (Parnell.) "I have now ascertained that many of these fish have been taken here chiefly in salmon nets." (Edward.) "Two were obtained off Morayshire." (Gordon.) "Occurring about Tongue, and there is a specimen in the Dunrobin Museum." (Harvie-Brown and Buckley.)

This species is frequently caught by trawl and brought into Aberdeen.

Family XIPHIIDÆ, *Agassiz.*

Genus XIPHIAS.

Xiphias gladius, *Linn.* The Sword Fish.

"A small specimen of this fish—rare on this part of the coast—was caught in our harbour in 1841." (Edward.) "One was caught at Bo'ness, Firth of Forth, July 17th, 1893; it measured eight feet two inches in length." *(Ann. of Scot. Nat. Hist.)* One, six feet long, was caught two hundred miles east of Aberdeen, and brought into the Market of that city, November 14th, 1893, and was bought by me.

This species is included in the list of fishes for the parish of Fraserburgh, given in Smith's *New History of Aberdeenshire*, vol. i., p. 589; but no value can be attached to the statement. Sir Robert Sibbald describes one that was caught in the Firth of Forth and exhibited in Edinburgh.

Family SCIÆNIDÆ, *Cuvier.*

Genus SCIÆNA, *Artedi.*

Sciæna aquila, *Risso.* Maigre.

"A specimen, about three feet and a half in length, was

taken a short time since in the Firth of Forth, and is now in the College Museum of Edinburgh." (Parnell.)

One was cast dead upon the sands of Aberdeen Bay, 8th December, 1870—length, five feet. It is now in Marischal College Museum.

Family TRICHIURIDÆ, *Günther.*

Genus TRICHIURUS, *Linnæus.*

Trichiurus lepturus, *Linn.* "Silver Hair-tail." "Blade Fish."

"Two specimens of this fish have been found dead and cast ashore in the Moray Firth, and examined by Mr. James Hoy. The first, on the 2nd November, 1810, after a high wind from the north, was found at Portgordon. . . . . Upon the 12th November, 1821, another individual was found upon the beach, nearly at the same place." (Fleming.)

From Hoy's description, quoted by Fleming, it seems doubtful if the fishes described were really *Trichiurus;* and, indeed, Dr. Day, in his work, while referring to Hoy's example, says: "One appears to have been *Regalecus banksii,* while it is doubtful to what genus the other, taken in 1810, is to be referred, unless to *Lepidopus,* as a caudal fin is alluded to."

In the *New History of Aberdeenshire,* vol. i., p. 186, while speaking of the parish of Aberdour and the fishes along its coast, *Trichiurus lepturus* finds a place in the list, but no authority is given.

"A very fine specimen of this fish, which is rare in the British seas, and especially on the east coast of Scotland, was found in the Firth here in April, 1876. Although the head and tail were a good deal injured, it measured over twelve feet in length." (Edward.)

Here, again, there is room for considerable doubt as to the identity of the specimen referred to, and it would seem that no appearance along the east coast of Scotland has yet been made by *T. lepturus.*

Genus LEPIDOPUS, *Gouan.*

Lepidopus caudatus, *White.* Scabbard Fish.

One found on the "Cullen Sands," January, 1896, and sent by Dr. Cramond to Professor Nicholson, Aberdeen—(*Aberdeen Evening Express*, January 31st, 1896). A few have recently been brought to Aberdeen Market, but their place of capture was not ascertained.

Family GOBIIDÆ, *Cuvier.*

Genus GOBIUS, *Artedi.*

Gobius niger, *Rondel.* Black Goby.

["These inhabiting the rocky part of the coast become at times the prey of the haddock, etc. Though they do not seem to be numerous in this arm of the sea, I meet with them occasionally in the stomachs of fishes." (Edward.)]

"In the Firth of Forth I find this fish rather scarce, having seen but three specimens." (Parnell.) "Mr. Robert Walker states that he has found this species. It has not occurred in my collection." (M'Intosh.) "One has been procured by Mr. T. Edward." ("Contributions to the Ichthyology of Banffshire," by W.)

Gobius ruthensparri, *Euphr.* Two-spotted Goby.

Edward considered this species the rarest of all the Gobies to be met with off Banff. "I have repeatedly taken it in the mouth of the Firth of Forth." (Parnell.)

I have taken this fish in the rock-pools along the Kincardineshire coast. It does not, however, appear to be an abundant species.

Gobius minutus, *Gmel.* Speckled Goby. Spotted Goby. "Donlie."

"Seems to be a common fish in sandy bays throughout the British coasts." (Parnell.) "I meet with them occasionally in the stomachs of fishes." (Edward.)

This is a common species in Aberdeen Bay, being often cast upon the beach, and caught by women with drag-net while fishing for sand-eels.

Gobius parnelli, *Day.* "Little Goby." "Speckled Goby." "One-spotted Goby."

"This well-marked species of Goby is occasionally found in the Firth of Forth, but is not common." (Parnell.) "Frequent" (at Banff). (Edward.)

This species I find sparingly in the rock-pools about Aberdeen.

Gobius quadrimaculatus, *Cuv.*

This species is represented by a single specimen which I found on board a steam trawler that had been fishing sixteen miles east of Aberdeen, April 23rd, 1895.

Genus APHIA, *Risso.*

Aphia pellucida, *Nardo.* White Goby.

Described as a "new species of British Goby," by Parnell, in *Proceedings of the Royal Society of Edinburgh* (1837). "Reported by Edward as plentiful in the rock and sand-pools of the Banffshire coast." (Harvie-Brown and Buckley.)

I can find no report of this in any of Edward's writings with which I am acquainted. Occasionally cast upon the beach at Aberdeen.

Genus CRYSTALLOGOBIUS, *Gill.*

Crystallogobius nilssonii, *Düb. and Kor.*

One was obtained from a rock-pool at Banff in May, 1868, by Edward, and was figured by Day.

Family CALLIONYMIDÆ, *Richardson.*

Genus CALLIONYMUS, *Linn.*

Callionymus lyra, *Linn.* "Dragonet." "Sculpin." "Balleerie." "Lerrie." "Messenger." "The Bridegreem." "Gemmous Dragonet."

This species is fairly abundant all along the east coast, and is frequently brought to land both by line and trawl.

Family DISCOBOLI, *Cuvier.*

Genus CYCLOPTERUS, *Linnæus.*

Cyclopterus lumpus, *Linn.* **Lumpsucker. "Paddle Cock." "Parl Hen." "Runker."**

Common all along the east coast. Seldom used as food, but by some it is considered good, after having been skinned and hung in peat-smoke for several days.

According to Day, this fish "comes in-shore," for the purpose of spawning, "from March until May." I have had the spawn brought in from deep water, upon the 1st of February, with some of the young already hatched and the rest all alive and ready to emerge from the eggs. The spawn is, however, often to be seen in rock-pools along the east coast in the months mentioned by the writer just quoted.

Genus LIPARIS, *Artedi.*

Liparis vulgaris, *Flem.* **Unctuous Sucker. "Sea Snail."**

Rare. "Has been found in the Firth of Forth" (Parnell), St. Andrews (M'Intosh), Montrose (Howden), Banff (Edward), Sutherland (Houstoun), and on the Kincardineshire coast by the writer.

Liparis montagui, *Cuv.* **Montagu's Sucker.**

"Abundant in rock-pools." (M'Intosh.) "Once met with." (Edward.) "Wick Bay." (Peach.) Fairly common in rock-pools south of Aberdeen, where they are generally found attached to the under side of stones and weed.

Family GOBIESOCIDÆ, *Bleeker.*

Genus LEPADOGASTER, *Gouan.*

Lepadogaster gouanii, *Lacep.* **Cornish Sucker.**

This species does not seem to be common. It is represented in the Montrose Museum, and several examples have been found on Aberdeen Beach by me.

Lepadogaster bimaculatus, *Flem.* **Double-spotted Sucker.**

"A specimen was lately discovered by the Rev. James Weir, of Lossiemouth." (Gordon.) "Included in Howden's catalogue, but no locality given. Brought on shore now and then." (Edward.) "Occasionally in the laminarine region and in the stomachs of cod and haddock." (M'Intosh.) Occasionally brought in by trawlers at Aberdeen.

Family BLENNIIDÆ, *Swainson.*

Genus ANARRHICHAS, *Artedi.*

Anarrhichas lupus, *Linn.* **Wolf Fish. Cat Fish.**

One of the commonest of the fishes along the north-east coast; caught in large numbers by trawl. Its colour and general appearance are such as cause most people to look upon it with dislike and even loathing; indeed, till recently, it was consigned to the manure manufacturer. I can, however, assert that there are few fish that can compare with the Cat Fish as an article of food; I find it really excellent.

An excellent figure and description of the so-called *Anarrhichas minor* are given in *The Annals of Scottish Natural History*, vol. i., pp. 26, 27. The specimen from which the figure, etc., were drawn is said to have been caught "by trawl off Aberdeen on or about the 17th October last" (1891); but as matter of fact, this and other spotted specimens were brought from Iceland. On October 19th, 1899, sixty specimens were landed at Aberdeen Market, all caught round Iceland.

The chief points of difference between this form and *A. lupus* are a number of dark conspicuous spots profusely spread over the body, the absence of the transverse bands characteristic of *A. lupus*, and a supposed general lessening of the teeth as compared with the latter. Whether this be a good species or merely a variety of *A. lupus* has still to be determined, although it is looked upon by various authors as distinct. If such be so, it seems to me that several others may be looked upon as good species and with equally good reason. As an example, there is *Anarrhichas lupus-non-maculatus* of Muller, a specimen of which I obtained at Aberdeen. This variety is

destitute of the transverse bands, and is of a uniform greenish-brown colour. The dorsal fin does not reach the base of the caudal, besides which it ends in several low rays, thus leaving a wide space between the tail and the end of the dorsal. The general height of the dorsal fin is less, and it does not rise so abruptly anteriorly as in the ordinary form of *lupus*. I have had several specimens of *A. minor*, and with the exception of external colouration, I am unable to see anything to warrant its being considered a good species; and the same observation applies to *A. lupus-non-maculatus*.

Genus BLENNIUS, *Artedi*.

Blennius gattorugine, *Bloch*.

"I have met with this species only on two occasions." (Edward.) This fish, however, and the following one are not represented in Banff Museum.

I have on several occasions found it on trawl vessels, and it may be noted that Day, in his description, says there is "a well-developed fringed tentacle above the orbit," and that there is "a black spot beneath the eye;" but in his figure (plate 59) this black spot does not appear, and the eye tentacles are shown of a short blunt oval form; whereas, in Yarrell's figures, vol. i., p. 226, 1st ed., the eye tentacles are shown long and bifurcated at their extremities, but without any fringing.

As Day makes no mention of a Blenny with bifurcated eye tentacles, it would seem that he has figured and described a different form, under the name of *gattorugine*, from that referred to by Yarrell.

Blennius montagui, *Flem*. Montagu's Blenny.

"One specimen taken from the stomach of a haddock." (Edward.)

[Blennius occellaris, *Linn*. "Butterfly Blenny."

Recorded by Dr. Howden as local, and as being represented in Montrose Museum. It is not recorded by Dr. Day as having been obtained in Scottish waters.]

Blennius pholis, *Linn.* "Shanny." "Smooth Blenny."

"Met with amongst the low-lying rocks along our line of shore." (Edward.) "Common in the Firth of Forth." (Parnell.) "Abundant between tide-marks." (M'Intosh.)

The Shanny is of very common occurrence along the rocky Kincardineshire coast. When first taken from the water, the fish presents a beautiful arrangement of colours, many of which vanish almost before the creature is dead.

Genus CARELOPHUS, *Kroyer.*

Carelophus ascanii, *Walbaum.* Yarrell's Blenny.

"I have a splendid specimen in my collection, which was found cast on shore between Gardenstown and Crovie. Rarely met with." (Edward.)

Peach records it from Wick and Peterhead. Day mentions "one from the Moray Firth, 1839." "One at Peterhead, 1853." (Harris.) "Not uncommon in deep water, and occasionally in the stomach of cod." (M'Intosh.)

I have found this species on several occasions upon trawlers that had been fishing off the Aberdeen and Kincardineshire coasts. It does not seem to be abundant.

Genus CENTRONOTUS, *Bloch.*

Centronotus gunnellus, *Günther.* "Butter Fish." "Nine-eyed Eel." "Spotted Gunnel."

"It is common in every part of the estuary of the Firth of Forth." (Parnell.) "To be met with among the low-lying rocks along our line of shore." (Edward.) "Abundant between tide-marks, and on the west sands after storms." (M'Intosh.) Included in the list of fishes at Peterhead, *N. S. A.*, and also by Arbuthnot.

This fish is abundant all along the east coast.

Lumpenus lampetreformis, *Collett.*

This fish was first discovered as British by Professor M'Intosh of St. Andrews, in May, 1884, and obtained by him fifteen miles off St. Abb's Head. The second recorded

specimen I found upon a trawl-boat that had been fishing in the Moray Firth, April 14th, 1885, since which time several hundreds have been obtained from the same locality.

Genus ZOARCES, *Cuvier.*

Zoarces viviparus, *Cuv.* **Viviparus Blenny. "Guffer Eel." "Dornicle."**

"Found in great numbers during the months of July, August, and September." (Arbuthnot.) "In the Firth of Forth it exists in great plenty, hiding under sea-weed in rocky situations." (Parnell.) "Not uncommon between tide-marks, and on the west sands after storms." (M'Intosh.)

This species is common all along the north-east coast, and is to be found under stones and weed. Those, however, caught off-shore are always of greater size than those to be found along the coast. On April 22nd, 1886, I had a large female brought from deep water. She contained 30 young, ready for expulsion, and in addition to this there were thirty-one more, evidently the young of a former season, which had never been born. They were all firmly fixed together, and in a hard wasted condition. The cause of their not having been shed was not apparent.

Family CEPOLIDÆ, *Bleeker.*

Genus CEPOLA, *Linnæus.*

Cepola rubescens, *Linn.* **Red Band Fish.**

A specimen is in Montrose Museum, and marked as local in Dr. Howden's list, but no authority given. I am not aware of any other record for the east coast of Scotland.

Family TRACHYPTERIDÆ, *Swainson.*

Genus TRACHYPTERUS, *Gowan.*

Trachypterus arcticus, *Nilss.* **"Vaagmär." "Deal Fish."**

A specimen of this fish was "caught in the Dee, near Aberdeen, 28th January, 1818, and exhibited by the Marquis

of Huntly's fishwoman. It measured three feet in length, nine inches in breadth, and one inch thick in the middle." (MS. note, with water-colour drawing of the fish, leaving no doubt as to the identity.) The note and drawing are in my possession.

"One obtained at Burghead in 1847, three feet long." (Gordon, who, in the *Zoologist*, p. 3460, mentions two others.) "One at Findhorn." (St. John.) "One in the Firth of Forth, 1849." (Day.)

In the *Presentation Book* of Montrose Museum for 1849 is the following: "Vaagmær or Deal Fish—This rare fish was so much damaged as to be unfit for preservation; eight feet two inches long, eleven inches broad, and two and one-half inches thick; sent to Mr. Yarrell." It is doubtful, however, if the fish referred to was a Vaagmär.

"April, 1872, one, five feet ten and one-half inches long, was captured in the stake-nets at Montrose, and is now in the Museum." (Day.) Since allowed to go to decay.

In August, 1888, one was found cast upon the beach by the salmon-fishers at Mennie, Aberdeenshire. It was about four feet long and nine inches broad. Being somewhat decomposed when found, it was allowed to decay. Gordon, in his *Fauna of Moray*, mentions one as having "been obtained at Burghead in 1847, three feet long—(Mr. Martin)—and one at Findhorn—(Mr. St. John)." One was reported by Edward in the *Aberdeen Evening Express*, on April 10th, 1879, as having been caught at Buckie that month.

Genus REGALECUS, *Ascanius.*

Regalecus banksii, *Yarrell.* **Banks' Oar Fish.**

A specimen of this species was cast ashore near Portgordon, and examined by Mr. James Hoy, November 12th, 1821, as reported by Fleming, *British Animals*, p. 205. Drs. Gordon and Day put the date as November, 1812.

"March, 1844, an example, twelve feet long, was cast ashore at the village of Crovie, near Macduff." (Martin and Gordon.) The occurrence of an Oar Fish was reported by Mr. Peach to Mr. Couch. It was obtained at Keiss, a few miles from Wick." It "measured fifteen feet and about one-half in

length . . . and the weight, one hundred and eighty-two pounds!"

An imperfect specimen, seven feet two inches long, occurred among the West Rocks." (M'Intosh.) "August 21st, 1880, one, twelve feet 9 inches long, was found dead, at the mouth of the Eden, on the sands at St. Andrews." (Day.)

An example, eleven feet four inches long, was caught at Fraserburgh, February 8th, 1884; one, seventeen feet one inch long, "was got in a stake-net by the salmon-fishers near Buckie the other day"—(*Aberdeen Daily Free Press*, April 23rd, 1884)—and was sent to Aberdeen University, but was not preserved. "One was washed into Sandhaven Harbour, January 25th, 1891; it measured about twelve feet long." (*Aberdeen Evening Express*, January 27th, 1891.)

"One, sixteen feet three inches long, was 'captured' in the estuary of the Findhorn 'one day last week,' and was sent to the British Museum." (*Aberdeen Free Press*, May 1st, 1896.)

Family ATHERINIDÆ, *Günther.*

Genus ATHERINA, *Artedi.*

Atherina presbyter, *Jenyns.*

["September, 1848, one caught off Peterhead along with herrings; length of fish, to root of tail, seven and one-half inches; to end of tail, nine and one-quarter inches; colour of fish, generally orange red; below lateral line, deeper red." (Dr. Dyce, MS.) This specimen does not appear among the collection of fishes that belonged to Dr. Dyce, now in Marischal College Museum.]

Day, in his history of *British Fishes*, vol. i., p. 226, gives the writer the credit of recording this species at Aberdeen. This is scarcely correct, as he only mentioned it on the strength of Dr. Dyce's note given above.

"Dr. Neill states, in vol. i. of the *Wernerian Transactions*, that 'he has frequently found the Atherine washed ashore about Figget Whins, in the Firth of Forth, after easterly winds. . . .' Two instances only have occurred to me in which the Atherine were found in the Firth of Forth." (Parnell's *Fishes of the Firth of Forth*, p. 232.)

"A specimen in the University Museum; rare." (M'Intosh, St. Andrews.)

Family MUGILIDÆ, *Cuvier.*

Genus MUGIL, *Artedi.*

[**Mugil capito,** *Cuv.* **The Grey Mullet.**

"I am only aware of two specimens of this Mullet which have been procured within our limits—the one at Gardenstown, the other at Cullen." (Edward.)

Parnell says: "This fish, on the authority of Dr. Neill, is occasionally found in the Firth of Forth, as recorded in the *Wernerian Transactions*, vol. i., p. 544, under the name of *Mugil cephalus*," and adds: "It is a singular fact . . . that not a single specimen has fallen under my notice; those which I have examined being the *M. chelo*, of Cuvier (the next fish to be described), and not *M. capito*, which, according to my observation, is far the rarer fish of the two." This is in exact accord with the experience of the present writer.]

Mugil chelo, *Cuv.* **Thick-lipped Grey Mullet.**

Arbuthnot, in his *Account of Peterhead*, p. 20, in speaking of "the Mullet," which he calls *Mugli ophalus*, says: "These have frequented our coasts for several years; they have never been caught upon lines, and appear to live upon the fucii. A number of them were caught in a seine-net. . . . The main body leapt over the bolt-ropes of the net and made their escape."

"Scarcely a summer passes but that a few are found at the different fishing stations in the Firth of Forth, and occasionally of large size." (Parnell, *Fishes of the Firth of Forth*, p. 230.) Edward does not mention this species in his list for Banffshire. "Common along the east coast of Sutherland in suitable places," and "pretty plentiful in Wick Harbour and in the mouth of the river in winter." (Peach, quoted by Harvie-Brown and Buckley, *Fauna of Sutherland*, p. 270.)

This species is frequently caught in the nets set for salmon along the east coast, and at times it is obtained in numbers in salmon drag-nets in the mouths of our rivers.

Family GASTEROSTEIDÆ.

Genus GASTEROSTEUS, *Artedi.*

Gasterosteus aculeatus, *Linn.* Stickleback.

After a few years' collecting of this family, and the examination of several hundred individuals, I am driven to the conclusion that there is but one species in our district, and also that the number, presence, or absence of lateral plates is of no value in the determination of species; for I find that in some of our lochs and streams these creatures are pretty constant in the appearance and number of their armature, whilst in others, by one sweep of a hand-net, a batch can be taken with a number of plates varying so that they represent every so-called species that has been recorded as British. Nor does the number of plates indicate age, for I have often found individuals not over one inch in length possessed of nine to twelve such plates; whilst others of full size have not more than three or four. It is also noticeable that the number of plates on each side is not the same, there frequently being one to four more on one side than upon the other.

Day, *British Fishes*, vol. i., p. 237, says: "It is in the ocean, more than in fresh waters, that we must seek the spiny-rayed fishes; and, similarly, it is on the sea-boards, or skirts of the ocean, that we must look for Sticklebacks in which the armature of the side is most developed, as in the variety *trachurus;* while such as have the free portion of the tail unarmed are furthest inland or on elevated plateaus."

It is quite true that the development is greatest and most constant along the sea-board, the only variation I find in these being the want of one of the dorsal spines. But I occasionally meet with specimens from pools in the interior of our district with an equally great development of lateral plates, and the keel upon the tail quite as well marked. This keel, again, in inland water specimens, is subject to considerable variation; sometimes it is formed by an elevation of the skin only—in others, it is composed of one continuous horny plate; while, again, it may be formed by a series of obtuse spines; and, lastly, of a number of small plates with a high ridge along the centre of each. All things considered, it

seems evident that we have but one species of Stickleback (apart from the fifteen-spined one), which is subject to immense variation in the number of its lateral plates, and that is capable of living in sea, brakish, or fresh waters. These variations, however, do not seem sufficient to warrant the adoption of specific or even variety names.

This species is subject to a disease similar, if not identical, to that of the salmon.

Gasterosteus spinachia, *Linn.* **Fifteen-spined Stickleback.**

Pretty common all along our coast, where its nest may be found in the quiet pools.

Family LABRIDÆ, *Cuvier.*

Genus LABRUS, *Artedi.*

Labrus maculatus, *Bl.* **Ballan Wrasse. Sea Swine.**

"The Ballan Wrasse is a rare fish in the Firth of Forth." (Parnell.)

Under the names "*Labrus tinca,* Wrasse, vulgarly called Sea Swine," this fish is spoken of by Arbuthnot, in his list of Peterhead fishes, as "the most beautiful of all the finny tribe which inhabit our shores."

"Pretty frequent during summer." (Edward.)

This species has been recorded from various places along the Moray Firth. It is occasionally brought into Aberdeen both by line and trawl.

Labrus mixtus, *Linn.* **Blue-striped Wrasse.**

"Rare. A very pretty specimen was taken off Macduff." (Edward.) Under the name *L. trimaculatus,* P. Neill, in his list of fishes for the Firth of Forth *(Memoirs of Wern. Nat. Hist. Soc.*, vol. i., p. 538), says: "Several of this elegant species were taken every summer in the Firth of Forth."

Parnell remarks: "The Wrasses greatly resemble each other in their external form, and, their colours being liable to great variation, have created much confusion in the identification of species."

Several specimens of this species have been brought into Aberdeen by trawl-fishers.

Genus CRENILABRUS, *Cuvier.*

Crenilabrus melops, *Cuv.*

Under the name "*Crenilabrus tinca*, the Conner," Parnell says: "On the rocky parts of Prestonpans, North Berwick, Largo, and Burntisland they are not infrequently met with."

Gordon, in his *Fauna of Moray*, mentions the "Gilt-head, *Crenilabrus melops*, found at Stotfield, 1838, often met with in the Firth—(Mr. Martin)."

Edward, in the *Naturalist*, vol. v., p. 59, and also in his "Life" by Smiles, simply uses the word "rare" in reference to this species.

Genus CTENOLABRUS, *Cuvier.*

Ctenolabrus rupestris, *Cuv.*

"Specimens are occasionally found in the Firth of Forth washed ashore after strong easterly gales." (Parnell.) "I have only seen one of these species in the neighbourhood." (Edward.)

Genus CENTROLABRUS, *Günther.*

[**Centrolabrus exoletus**, *Günther.*

Under the name *Acantholabrus exoletus*, Small-mouthed Wrasse, Edward says: "Only one specimen of this fish as yet came under my notice, and that one was captured off Troup Head."]

Order ANACANTHINI.

Family GADIDÆ, *Cuvier.*

Genus GADUS, *Cuvier.*

Gadus morhua, *Linn.* **Cod. "Pullach." "Keelin'." "Codlin'." "Dole-fish." "Haberdine."**

Abundant all along the east coast of Scotland, and one of the most valued food fishes. This species is subject to hermaphroditism. I have a specimen in which the milt and roe are well developed.

Turton's "Speckled Cod" has been occasionally found along the Aberdeenshire coast, specimens of which are in my possession. This, however—as is now well known—is merely the young of the common Cod in which the speckling is produced by the presence of parasites in the skin, each of which produces a small black speck. "Green Cod" are also the common form whose colour is produced by the food it eats and the locality it frequents, usually where sea-weed is abundant.

"*Ascellus islandicus*, Haberdine. It is an island Cod, somewhat bigger than ours, and of the same nature." (*The New London Dispensatory*, p. 255, 1676.)

Gadus æglefinus, *Linn.* **Haddock. "Hathock" "Haddie." After spawning, "Gamrels" or "Camerls." Young, above five inches long, "Nockies." When rock-dried, "Speldin." "Harrowster."**

Extremely abundant, and caught in vast numbers; used in fresh state or smoked. The small village of Findon, Kincardineshire, was long famous for its "Yallow Haddies," and these were known and highly appreciated over a wide district. Now, however, its good name is gone, and with it the trade. "Finnan Haddies" are now made in Aberdeen and the various villages along the coast, but they have the name only; they are not the "Finnans" of thirty years ago. The object now aimed at is the "taking appearance" of the fish, and this is only attained at the expense of quality. The real "Finnan" was cleaned and smoked on the day it was caught, and the smoking was done with peat fuel; now they are made from fish that may often have been from three, four, to six days in ice, by which time the substance and flavour are sucked out of them, and the smoking is done with pine sawdust, after which the fishes are washed to give them a "fine look," with the result above stated.

Of late, a great outcry has been raised by line fishermen about a scarcity of Haddocks, the cause of which they attribute to trawling, and they assert that never before was such a scarcity known. But on such points the fisher mind is little to be relied upon, for such times of scarcity of fish were frequently known long before trawling began along the east

coast. In the *O. S. A.*, vol. xiii., p. 8, under Bervie, it is said: "The fishing business seems to be much on the decline on this coast, owing to the great scarcity of fishes, particularly of the species called Haddocks. Within these ten or twelve years the Haddocks have left this coast entirely. In the year 1782, a prodigious storm happened on the coast; the wind, blowing with an uncommon violence, raised the sea in such mountainous billows as to produce effects almost like an earthquake, and since that storm the Haddocks have every year become scarcer. The cause attributed for their departure being that the mussels on which they fed had been covered up with sand." On the other hand, "Dr. Blagden ascribes the scarcity of the Haddocks to the effects of electricity."

The Haddock is subject to great variation in colour; one was brought into Aberdeen Market on 19th February, 1896, the colour above the lateral line and the line itself being a pale yellow; under the line, silvery white. There was no trace of the ordinary black shoulder mark. The fish was caught by trawl about midway between the main-land and Soulis Skerry, *i.e.*, about thirty-three miles off each. The fish measured twenty-five inches long, and was in fine condition.

Fishes similar to this are described by Thomson and others from the Irish seas. Couch claims them to be specimens of what he describes as the "Dorse," but in this there is great room for doubt. In his description of the Dorse, he says: "Behind the head on the back a deep chink almost like that on the nape of the Rockling, but without a ciliated membrane as in that fish." Now the fish in my hands has not that "chink," but has instead the low blunt crest of the common Haddock, and if it could be shown that the Irish examples did not possess this "chink," then Couch's claim to have them "Dorse" cannot hold good.

Gadus luscus, *Linn.* Bib. Whiting Pout. "Silver Fish." "Jackie-downie." "Brassie." "Bargain."

Common all along the east coast of Scotland. Frequently used as bait. As an article of food it is very good.

Gadus minutus, *Linn.* **Poor or Power Cod. Shelchie. Shelack.**

Abundant; caught in fair numbers by line during summer, and by trawl all over the year. Although small it is very good eating, but seldom used.

Gadus merlangus, *Linn.* **Whiting. "Fittin." Young taken in the months of June and July (when in quantity) are called "Dargs." "Cuitschack."**

Caught in large quantities all around the east coast, and esteemed the most delicate of all our food fishes, for which reason it is often called "the chicken of the sea."

Gadus poutassou, *Günther.* **Couch's Whiting.**

Included in Dr. Howden's list as local, but no information given as to where caught or where to be seen.

Gadus virens, *Linn.* **Coal Fish. "Colmies." "Saithe." "Coal Saithe." "Piltock." "Cuddy." "Baggot." "Mar Seith." In the young stages, the names of "Prinkle," "Gerrick," "Poodlie," are given.**

This species is caught in great numbers, but is not considered of high quality. They are usually split, salted, and dried.

Gadus pollachius, *Linn.* **Pollack. "Lythe." "Skeet." "Sythe."**

"A rare visitant in the Firth of Forth, where seldom more than half-a-dozen are taken during the season, and those generally of large size." (Parnell.) "These frequent our coasts during the summer months. . . . The taste is similar to the common whiting, but much firmer and more delicious." (Arbuthnot.) "Occasionally from deep water." M'Intosh.) "Frequent." (Edward.)

Along the coast of Aberdeen and Kincardine shires this species is caught sparingly.

Genus GADICULUS.

Gadiculus argenteus.

This species is represented by a single specimen that was found upon Aberdeen Sands by me on April 13th, 1885.

Genus MERLUCCIUS, *Cuvier.*

Merluccius vulgaris, *Cuv.* Hake. "Herring Hake."

"Rare in Scotland." (Fleming.) "Seldom met with on the east coast of Scotland." (Parnell.) "Found occasionally." (Edward.)

This fish is caught abundantly off the coasts of Kincardine, Aberdeen, and Banff both by line and trawl, and is, when properly cooked, an excellent article for the table.

Genus PHYCIS, *Bloch.*

Phycis blennoides, *Bl.* Great Forked Beard.

This fish was practically unknown along the east coast until the advent of trawling, by which mode of fishing it is shown to be fairly abundant. It is never used as food, still I find it to be excellent as such. A variety of this fish is sometimes brought to our market in this form—the first ray of the first dorsal fin extends from one and one-half to two inches beyond the others, in the form of a long thin spine. From this, Couch has given it a place as a distinct species under the name *Blennoid Fork-beard*, but beyond this difference in the fish, I have seen nothing to warrant such distinction being given.

Genus MOLVA, *Nilsson.*

Molva vulgaris, *Flem.* Ling. "Stake," when young. "When salted and dried, they are called Kealing." (Edward.)

This is a very common species along the east coast, and is caught in large numbers, and either eaten fresh, or split, salted, and dried. It is held in high esteem as an article of

food. Like the cod, the ling is a voracious feeder, nothing seems to come amiss—knives, steel drills, belaying pins, and bottles of both glass and pewter. In one, which was opened at Aberdeen, was found a pint-bottle, and within this vessel was found part of a note-book with the following, written in pencil: "The schooner 'Anna,' of Bangor, in a sinking state; my men 'as given up; all hopes abandoned. Writing this, dear wife, if this should reach shore, know what 'as become of your darling Willie. God bless you. January 24th, 1886, dreadful storm; both masts gone; ship water-logged. Good-bye, dear wife, for ever.—From your loving husband, Willie Jenson."

Genus LOTA, *Cuvier.*

[Lota vulgaris, *Cuv.* Burbot.

"Two specimens found in Market to-day, June, 1861; never met with this fish before—one, thirteen and one-half inches; the other, twelve and one-half inches long, along with sea fish; upper jaw longest; teeth very sharp."

The above is a MS. note by the late Dr. Dyce, on whose authority I included the Burbot in my list of the *Fishes of the North-east Coast of Scotland*, which was issued by the Aberdeen Natural History Society many years ago. Having examined one of Dr. Dyce's original specimens, there is no doubt that he was labouring under a mistake. The fish he named the Burbot is merely a young specimen of the common ling.]

Genus MOTELLA, *Cuvier.*

Motella mustela, *Nilss.* Five-bearded Rockling. "Miller's Thumb."

To be found in almost every pool along our rocky coasts. The young of this species are to be seen in small pools left by the tide during the months of September and October. At that period they are from one and one-half to one and three-quarters inches long—dark, almost black, along the body above the lateral line, silvery below. In this stage they have been looked upon for long as a distinct species under the name of "*Motella glauca*, Mackerel Midge." In a similar position, it is

suspected, must *Couchia thompsoni* and *Couchia edwardii* be placed, both of which are described as distinct species by Couch, from specimens sent to him from Banff by Edward; only that *C. edwardii* appears to be the young of *Motella cimbria.*

In this connection, the Seven-bearded Rockling found by me must of necessity be looked upon as a mere accidental variety of the Five-bearded Rockling. In the notice of *Motella tricirrata* it is mentioned that the barbels have been observed to be bifid. This bifurcation, by being extended to the base of the barbels next to the eye, would give the exact appearance of the seven-bearded form referred to, and indeed some affirm that the three, four, and five-bearded Rocklings are merely varieties of one form.

Dr. Howden, in his list of fishes, in referring to the seven-barbeled form alluded to above, gives it the name of *M. septemciviata.* It is surely a mistake to multiply names in this way, and with so little ground for doing so.

Motella cimbria, *Nilss.* Four-bearded Rockling.

In describing this form from a specimen fourteen inches long, Parnell says: "I am not aware of the *Motella cimbria* having previously been noticed as a British fish." Although mostly all previous writers have mentioned this fish, all agree in accounting it "rare." I have found it at Aberdeen.

Motella tricirrata, *Nilss.* Three-bearded Rockling. "Miller's Thumb."

Under the name *Motella vulgaris*, Parnell says: "It is rare in the Firth of Forth as well as along the whole of the eastern shores of Scotland."

This species is not mentioned by Edward in his "Fishes of Banffshire," as given in the *Naturalist* for 1855, nor in the list at the end of his "Life," as given by Smiles, 1876.

It is recorded from the Moray Firth by Harris in *Zoologist*, ix., for 1851. M'Intosh does not mention it in his "Fishes of St. Andrews."

This species is frequently brought into Aberdeen by trawl

fishers, and always from deep water; I have obtained as many as a dozen in one morning. By these fishers it is caught all the year round.

I have seen the barbels in this species bifurcated. This fish is never eaten, being looked upon with great dislike; still it is an excellent article of food.

Genus RANICEPS, *Cuvier.*

Raniceps raninus, *Linn.* **Lesser Forked-beard. "Tadpole Fish."**

Not an abundant species. Has been found in the Firth of Forth, St. Andrews Bay, and Edward says: "Several of these are now known to have been found in this part of the Firth." I have frequently found this species cast upon the beach at Aberdeen, always after storms.

Genus BROSMIUS, *Cuvier.*

Brosmius brosme, *White.* **Torsk. Tusk. "Brismak."**

"It is said to be occasionally taken in the Firth of Forth." (Parnell.) "There are few of these fishes to be found in our neighbourhood. . . . . Some are caught in the mouth of the Murray Firth about the termination of the Long-Forties Bank." (Arbuthnot.)

A few are brought into Aberdeen by line fishermen, but the species is not abundant on the east coast. It is, however, very common about Shetland, where large numbers are caught by trawlers and brought to Aberdeen Market.

Family OPHIDIIDÆ, *Muller.*

Genus FIERASFER, *Cuvier.*

Fierasfer dentatus, *Cuv.* **Drummond's Echiodon.**

This species was first made known as an inhabitant of our coast by Edward of Banff, who found one in March, 1863. I found one at Aberdeen, March 18th, 1883, since which time several others have been got by me.

Genus AMMODYTES, *Artedi.*

Ammodytes lanceolatus, *Lesauvage.* **Sand-lance. "Ornals."**

This species is often caught by line-fishers, and is also cast upon the beach after storms.

Ammodytes tobianus, *Linn.* **Sand-eel. "San'ils."**

Abundant, and caught in large numbers to be used as bait for haddock and whiting. A delicious article of food, but from their small size are seldom used as such.

"There is a place in Southerland, besyd Spainzidell, wher the inhabitants doe tak a kynd of fish (called Sandeels) efter this manner. At high streams and springs in summer, when the sea is at low eb, their doth appeir in the Firth of Port-Necouter some banks or bedds of sand; at these tymes the common sort of the inhabitants doe conveen on horsbak to the number of six or seven hundred people, and so doe swim towards these sands; and when they doe aryve upon these bedds of sand, incontonent they run their horses at full speed, stryveing who can first aryve at the fishing place, when they doe endevoar with all dilligence to tak these Sandeels (not unlike unto sprats) whereof they tak such abundance dureing some few dayss that it sufficeth them for provision of that kynd of fish dureing lent and the most of the yeir following." (*The Genealogy of the Earls of Sutherland,* p. 5.)

Family MACRURIDÆ, *Richardson.*

Genus CORYPHÆNOIDES, *Günner.*

[**Coryphænoides rupestris,** *Collett.*

Specimens of this species were dredged by the "Porcupine" off Shetland. It is included by Dr. Howden in his list as local, but where caught or where to be seen is not stated.]

Family PLEURONECTIDÆ, *Risso.*

Genus HIPPOGLOSSUS, *Cuvier.*

Hippoglossus vulgaris, *Flem.* **Halibut. When young, "Birdies." "Turbot." "Blacksmiths," when old and black.**

Abundant, and caught both by line and trawl.

Genus HIPPOGLOSSOIDES, *Gottsche.*

Hippoglossoides limandoides, *Günther.* Long Rough Dab. "Rochie." "Bastard Sattie." "Rough-back Fluke."

"This fish I first recorded as British in the *Edinburgh New Philosophical Journal* for July, 1835, from specimens taken in the Firth of Forth." (Parnell.) "These are found in great numbers off our coast." (Arbuthnot.) "Of rare occurrence." (Edward.)

Along the coast of Kincardine, Aberdeen, and Banff shires, this is quite a common species, and is caught both by line and trawl, but is not looked upon with much favour as an article of food. It is, however, a fish of fine flavour.

Genus RHOMBUS, *Cuvier.*

Rhombus maximus, *Cuv.* Turbot. "Roden Fluke." "Gunner Fluke." "Bonnet Fluke." "Roan Fluke."

"These are caught in considerable quantities off our coasts; they sell from threepence to one shilling and twopence each. They are a fish of no reputation amongst the poor, but they begin to be liked by the higher classes of society." (Arbuthnot, 1815.)

"Along the east coast of Scotland, in the bays of the Moray and Dornoch Firth, they are occasionally taken, but of small size, and do not appear in numbers until we approach the English coast. At the mouth of the Firth of Forth they are found more plentiful, and specimens, weighing from twenty to thirty pounds, are not infrequently taken." (Parnell.)

"Met with . . . and always commands a ready sale and a high price." (Edward.)

"In the abnormal examples which swim on their edges, both the dextral and sinistral surfaces are coloured, and each has an eye." (M'Intosh.)

This is an abundant species, and is caught in great numbers both by line and trawl, particularly the latter. Specimens coloured on both sides often occur; but it does not follow that because they are so they swim edgeways. Those referred to have in every case the eyes on one side.

Such examples as are completely coloured on both sides have tubercles on both surfaces. If, however, any of the ordinary white colour is still in evidence, the tubercles are not present on such white patches. Another peculiarity in this species, which I have not observed mentioned by any author whose works I am acquainted with, is that sometimes when the fish are normally coloured, they are as thickly studded with tubercles on the under surface as they always are upon the upper, and in such cases these tubercles stand much higher and sharper, assuming the form of spines.

The Turbot is also subject to a peculiar form of malformation, *i.e.*, the anterior end of the dorsal fin being free from the head, thus making a deep notch immediately above the eyes. It is also a general belief that this malformation is only to be seen in specimens of the fish that are coloured on both sides, but this is a mistake. After years of observation, I find that this cleft between the head and the dorsal fin occurs as frequently in specimens having a white and coloured side as in those coloured on both sides; but I have noticed that the cleft is often more pronounced in the latter than in the former.

Rhombus lævis, *Rondel.* **Brill. "Silver Fluke." "Pearl Turbot." "Bastard Turbot."**

Taken by trawl in considerable numbers upon the "Aberdeen Bank" and upon "Smith's Bank," in the Moray Firth, and other places along the east coast. As many as five hundred and twenty have been landed by one vessel at Aberdeen Market, and from one to four hundred have often been brought in.

Genus ZEUGOPTERUS, *Gottsche.*

Zeugopterus unimaculatus, *Day.* **Eckstrom's Topknot.**

"In Montrose Museum." (Howden.) "Rare in Caithness." (Peach.)

Zeugopterus punctatus, *Collett.* **Muller's Topknot. "Black Hairy Fluke."**

"Rarely seen, except during stormy weather." (Parnell.)

"Occurs at intervals along our whole line of coast." (Edward.) "Not common." (M'Intosh.)

This species is occasionally cast upon the beach at Aberdeen after storms, and is not infrequently brought in by trawlers.

Genus ARNOGLOSSUS, *Bleeker.*

Arnoglossus megastoma, *Donovan.* "Sail Fluke." "Whiff." "Megrim." "Merry Sole."

"Several of these have been caught in the harbour at Peterhead, but they are by no means a fish that is plentiful upon our coast." (Arbuthnot.) "This species seems to be rather rare with us." (Edward.) Not mentioned by Parnell for the Firth of Forth. "Occasionally." (M'Intosh.) "Not uncommon off Wick." (Peach.)

This is a species that does not readily take a bait, hence the supposition that it is rare. It is, however, taken in considerable abundance by trawl, being fairly numerous all along the east coast, and may be seen every day in Aberdeen Market.

[Arnoglossus laterna, *Günther.* Scald Fish.

"This would appear to be another very scarce species with us. I have never met with one but in fish stomachs, and very seldom there." So says Edward, and he is the only authority we have for the occurrence of this species upon the east coast. Unfortunately, no specimens exist in the Banff Museum of Edward's many rarities, so that now there is no chance of verifying his statements. I am, however, inclined to think that Edward has been labouring under a mistake in this instance, and that what he took for the Scald Fish is merely the young of the Craig Fluke *(Pleuronectes cynoglossus).* Again the question arises, Is the Scald Fish a good species? Is it not merely the young of the one just mentioned? If not, certainly this young form might easily be mistaken for the Scald Fish.

Genus PLEURONECTES, *Artedi.*

Pleuronectes platessa, *Linn.* Plaice. "Plash Fluke."

In great abundance in all suitable localities along the east coast; caught chiefly by trawl.

Pleuronectes microcephalus, *Donovan.* **"Smear Dab." "Lemon Dab." Lemon Sole. "Sand Fluke." "Mary Sole." "Town Dab."**

"The Smooth Dab is not by any means a common fish in the Firth of Forth. . . . Two or three seasons sometimes pass when not half-a-dozen of these fish are seen in the Edinburgh Market." (Parnell.) "Not often met with at Banff." (Edward.) "Common at St. Andrews." (M'Intosh.)

Since the trawl fishing began along the east coast, the Lemon Sole, as it is called, is found to be an abundant species, and large numbers are brought into Aberdeen Market.

Pleuronectes cynoglossus, *Linn.* **"Pole." "Craig Fluke." "Witch Sole." "Pole Dab." Long Flounder.**

"This fish was first recorded as new to the British Fauna in the *Edinburgh New Philosophical Journal* for 1835. The only locality then known for it was the Firth of Forth. . . . Since the time I first discovered it, I have obtained fifteen specimens." (Parnell.) "Under the name *Pleuronectes Buchanhavenensis*, Arbuthnot gives notice of a fish which may be *Cynoglossus*. Not often met with." (Edward.)

For twenty years prior to the commencement of trawling along the east coast of Scotland, I had only seen three specimens of this species; but since trawling became a common mode of fishing it has proved that the "Witch Sole" is quite an abundant species—so much so, that a trough that runs from near Rosehearty to opposite Tarbet Ness is now known as the "Witch Ground." This hollow runs about parallel with the Moray Firth coast, from which it is distant from six to ten miles.

When this fish was first brought to market it was difficult to find buyers for it, being, as it looks, a thin fleshless-like animal. It was, however, soon found to be a fish of excellent quality, and now finds a ready sale. This species very rarely takes a bait.

Pleuronectes limanda, *Linn.* **"Sattie." "Dab."**

Abundant, and caught in large numbers by line and trawl.

Pleuronectes flesus, *Linn.* **Flounder. "Beggar Fluke." "Freshwater Fluke." "Biggar Fluke."**

Common both along the coast and in our rivers, up which it ascends for many miles.

Genus SOLEA, *Cuvier.*

Solea vulgaris, *Quensel.* **"Common Sole." "Rock Sole." "English Sole." "Black Sole." "Tongue Sole." "Sole Fluke."**

Not an abundant species. A few are caught by trawl, and more rarely by line.

Solea lascaris, *Günther.* **Lemon Sole.**

"Rare." (Edward.) I have never seen this species on the east coast, nor even heard of it.

Solea variegata, *Flem.*

Under the names "*Pleuronectes variegatus*, Variegated Soal, or Spotted Soal," Arbuthnot says: "These are to be met with occasionally, but they are a rare fish."

Although no notice is taken by Edward of this species in the Moray Firth, either in the Appendix to his "Life" by Smiles or in the Fishes of Banffshire as given in the *Naturalist*, he is made to say by Day, in his *Fishes of Britain*, that it is "met with occasionally off Banff." The writer can find no record of its occurrence, nor has he ever seen it himself.

Solea lutea, *Bonap.* **"Solonette." "Little Sole."**

"I have found it in the stomachs of cod and haddock." (Edward.) "Common at St. Andrews." (M'Intosh.)

I have on several occasions taken this species by trawl in Aberdeen Bay.

Order PHYSOSTOMI, *Muller.*

Family STERNOPTYCHIDÆ.

Genus MAUROLICUS, *Cocco.*

Maurolicus pennantii, *Day.* **Sheppy argentine,** *Pennant, Low.* **Scopelus humbolti,** *Yarrell.* **Scopelus borealis,** *Nilsson.* **Scopelus pennantii,** *Cuv.* **Argentina hebridica,** *Günther.* **Argentine,** *Couch.*

This little fish is cast upon the beach at Aberdeen in great numbers during the months of January, February, and March, but I have found it as early in winter as November 27th. "Common at Banff" (Edward); and Peach has recorded it from Wick. The distribution is wide; it has been found in the Greenland seas, on the coast of Scandinavia, all around the British islands, and through the Mediterranean, where it has been found by me cast upon the shore at Cannes in the month of November.

It may be observed, in passing, that the habits of this little fish are entirely unknown. It has been said that "they are thrown on our shores in varying numbers, and in proportion to the violence of the weather"—a statement quite at variance with fact, that is if the statement is meant to show that the fish is only to be found when violent weather sets in, which the present writer understands it to mean. I have for many years watched the movements of this fish, and have observed that during violent weather it is never cast upon the beach, and not until the storm has passed and the sea again become calm is there the least hope of seeing *Pennantii* thrown up, and then in a living or perfectly fresh condition, showing clearly that the storm has nothing to do with the fact of the fish being so cast up. How they manage to escape the storm is a trait in their habits yet to be accounted for. All I can in the meantime say is that such is the case as shown from many years' observation, and that if the weather continues boisterous, *Pennantii* need not be expected during the season indicated above.

[**Paralepis coregonoides**, *Risso.*

In Dr. Howden's list this species is marked local, but without note or comment. On the other hand, the only specimen known to have been found in British waters at the publication of Dr. Day's *History of British Fishes*, and which Dr. Howden professes to follow, is one in the British Museum, which was found alive on the coast of Cornwall in 1869.]

Family SALMONIDÆ, *Muller.*

Genus SALMO, *Artedi.*

SALMO SALAR, *Linn.*

Salmon.

"The Dee abounds with excellent Salmon, grilse, sea-trout, sterlings (here called dowbreeks), trout, and parr, with some pikes and fresh-water flounders and finnicks. . . . . The spawning season is thought to be from the middle of October to the end of November, during which time fishing, which, by the bye, is always with rod or spear, is prohibited. We have, however, a species of Salmon called by the country people Candavaigs that frequently do not spawn before the months of April or May; these, therefore, are in perfection when the others are not. They are grosser of their length than the common Salmon, and often (of a large size) upwards of 20 or 30 lbs. weight. They are said to come from the coasts of Norway." *(O. S. A.)*

Salmon are abundant in all our rivers, and enter such lochs as are reachable.

As stated in our introductory remarks, the history of the salmon is a subject upon which great divergence of opinion exists. The parr, which is now admitted by all who have gone into the subject to be the young of the salmon, was long held, even positively asserted, to be a distinct species, and was found in numbers where salmon were never seen. This idea still lingers in the minds of many, and those who admit

the parentage of the parr now maintain that at the end of twelve months it takes to the sea in the condition of smolt, returning to its native stream a few months later—some say a few weeks—in the form of grilse, of from two to six pounds weight; but they will admit of no stages between smolt and grilse. The latter, they maintain, after a short time in the river, descend to the sea, and, in the following season, return as salmon. In short, it is affirmed that a smolt of from five to six inches long, and which, according to them, is not more than twelve months old, leaps into a grilse in the short space of two or three months, and in a similarly short time becomes a salmon.

It is, however, well known now that many parr remain in fresh water for two years before they assume the smolt dress, and then only do they make way to the sea. It has, over and over again, been observed by those having charge of salmon hatcheries—indeed, by all who have gone into the subject experimentally—that of the fry produced from the roe of one salmon, one half of the number assume the smolt dress when twelve months old, and make efforts to escape seawards, leaping on to the banks that confine them, and readily rush out when egress is afforded them; while the other half will not avail themselves of the liberty offered until twelve months afterwards, so that smolt when caught may be from one to two years old, or even more. This accounts for the fact that parr may be found in streams at all seasons of the year, while smolts are not—a fact that has been brought forward as proof that parr and smolt are not the same species.

Now, before making any observations on this rapid transformation from smolt to grilse, it is necessary to note that there are a number of small fishes of the salmon kind, and all anadromous forms, that in various parts of Britain receive different names. Thus in some quarters there are Whitings and Salmon-peal, Skerlings, Lastsprings, Smouls and Pink, Sprints, Herlings, Yellowfins, Blacktails, Silver-white, and Finnocks. All these have long been, and still are, held by many as distinct species. They are, however, nothing more than local varieties of what is generally known in the north as the Finnock, a form which many say does not ascend our streams beyond the influence of the tide, but which I have myself seen caught in the upper reaches of our rivers.

The finnock is the young of the sea trout, and the sea trout becomes a grilse, and grilse eventually a salmon. We have thus salmon fry, parr, smolt, finnock, sea trout, grilse, salmon, giving all the steps from birth to maturity.

Another point that has long been held to prove that sea trout, etc., have no connection with salmon, is the great difference in the shape of the tail of the various forms. This, however, cannot be taken into account, for I find that in its younger stages the tail of the parr is totally different from that of its parents, which is deeply forked. Although the parr's tail is generally represented as forked, it is in reality not so. Photographic illustrations taken from the fish show that at three up to six months old the tail is almost straight across, becoming more cut into as the creature advances; besides, for the first few months they have no scales upon the body. Thus it will be seen that the salmon in its younger stages is somewhat slow of growth—reversing the process seen in some other forms of life—and it continues so through the whole course up to the adult, showing unmistakably that there can be no leap, as is generally affirmed, from smolt to grilse.

Another feature in the habits of the salmon is one over which contention still continues; that is, does the salmon feed in fresh water? It was only in 1898 that an extensive series of experiments were conducted under the auspices of the Scottish Fishery Board, and published as a Blue Book. In that series the conclusion was arrived at that the digestive organs of the salmon while in the river are functionless. These experiments, the report of which extends to 176 pages, seems to me to have been carried on in a way that proves but little. I cannot see that to take the stomach and intestines of salmon and place them in strong spirits and solutions of perchloride of mercury, and afterwards examine them under a microscope, can prove what the original condition of such preparations had been. Treatment of animal tissues in such a way produces changes that alter their condition materially.

Again, we are told on pp. 170-171: "That salmon take the fly, minnow, or other shining object in the mouth is no argument as to their feeding in this sense. That they may, and occasionally do, take and swallow worms

and other wriggling objects is well known. But the swallowing of a few worms can do but little to make good the enormous changes going in the fish, even if, when swallowed, they are digested and used." If, then, worms, etc., are not digested, what object has the fish in swallowing them? Would it not be dangerous for the fish to do so? In the course of the time salmon are in the river, they would accumulate a quantity of worms, etc., that would, of necessity, become putrid if not digested, and would thereby endanger the life of the fish.

But so long as we know that the remains of fish have been found in the stomachs of salmon that were caught in the upper reaches of our rivers, and that they are taken with minnow, both natural and artificial, and that they rush greedily at a bait formed of salmon roe, the fact cannot be ignored that they are ready to feed whenever opportunity occurs. Besides that, it is now known that our lochs and streams swarm with myriads of copepoda and other minute crustaceans—these of themselves are sufficient to form a fair supply of food for salmon, as the same group of creatures do to the herrings in the sea.

Regarding the disease to which salmon are subject, it has been a question whether those of them that succeed, while in that state, in reaching the sea get cured of the ailment. It has been said they do not. I, however, obtained a salmon that was caught by trawl 40 miles off shore, whose body showed the usual marks left by the disease, while on other patches the fungus was still adhering, and when this was examined under the microscope it proved unmistakably to be *Saprolegnia ferax* of the river, and it was evident that the disease was disappearing, and the sores healed since it had reached the sea; while the appearance of the fish gave evidence that it had not been long since it had left the fresh water.

Taking it all and all, much has yet to be done before the life history of the salmon can be fully elucidated.

Salmo fario, *Linn.* Common Trout.

"There are none in Loch-an-ean, Loch-na-gar, or Duloch. Mr. Richard M'Queen is answerable for these facts." (Mac-

Gillivray.) How long trout have existed in Lochnagar I do not know, but I have taken them there.

Common in every stream and loch, assuming endless variation in form and colour, and receiving an equally endless list of names.

Salmo umbla, *Linn.* **Northern Char. Alpine Char. Red Wame.**

Salmo salvelinus, MacGillivray's *Natural History of Deeside*, in which it is stated, "Dr. Adams says he believes this fish to have been introduced into the Loch of *Dunn* and other lakes on Deeside." I assume that it is the Loch of Drum that is meant.

Char exists in Loch Builg, in Banffshire, about fourteen miles from Ballater. On June 12th, 1890, one of 2½ to 3 lbs. was caught in a salmon net below the Bridge of Dee, and I had one similarly caught, but under 1 lb. weight, near the same locality, but it is not plentiful in the streams of Kincardine, Aberdeen, Banff, or Moray shires.

Occurs in Loch Knockie, Inverness-shire, but "common in some of the lochs throughout the county of Sutherland." (*Fauna of Sutherlandshire*, p. 290.) This form, however, is now held to be merely a variety of the common trout.

Of late years, it has become a habit to introduce varieties of trout to our northern rivers that are not indigenous to the country. This may be beneficial from a food point of view, but from a natural history one it is calculated to cause confusion, especially when such have been introduced without the fact having been made public. Thus, in 1898, over a thousand rainbow trout were brought from Lancashire and put into the river Bucket, a tributary of the Don.

Genus OSMERUS, *Artedi.*

Osmerus eperlanus, *Lacép.* **Smelt. Sparling. Sperling.**

Common in the Firth of Forth and Firth of Tay, where it is taken in great quantities during the autumnal months and onward more sparingly till the end of March. Not known along the coasts of Kincardine and Aberdeen shires. For Banffshire, Edward says "rare with us."

At page 291, *Fauna of Sutherland*, the authors say: "Mr. Peach informs us he has caught the Smelt when fishing for sillocks," but the locality is not stated, although no doubt it is somewhere within the area covered by their work.

In Olsen's *Piscatorial Atlas*, the Moray Firth is given as a spawning ground of the Smelt. On June 5th, 1893, two specimens were caught by trawl off the Pentland Skerries, and were brought into Aberdeen Market.

Genus THYMALLUS, *Cuvier.*

[Thymallus vulgaris, *Nilss.* Grayling.

Recorded as local by Howden, but he gives no indication as to where caught or seen.]

Genus ARGENTINA, *Artedi.*

Argentina sphyræna, *Linn.*

In the *Banffshire Journal* for December 9th, 1879, Edward gave a long and very minute description of this species, under the heading "A strange fish—What is it?" Subsequently there appeared in the same journal a paragraph with this heading, "A Rare Piscis." "We some time ago noticed the capture of a strange fish at Cullen, with the query 'What is it?' The problem, we are glad to say, is now solved. Dr. Günther, of the British Museum, from the description, suggested that it was a specimen of the *Argentina silus*, a fish entirely new to Britain. This has now, through the kindness of Professors Trail and Ewart, of Aberdeen, been confirmed."

Edward eventually described the specimen in the Journal of the Linnean Society, vol. xv., p. 334 (1881), as *Argentina silus*. Dr. Day, however, in his *History of British Fishes*, vol. ii. p. 136, in speaking of *Argentina sphyræna* includes Edward's *silus*, and does not admit it to be different from *Sphyræna parva* of Rondelet, the *Argentine ou peis-argent* of Duhamel, the *Argentina sphyræna* of Linneas, the *Osmerus hebridicus* of Yarrell, and the *Hebridal smelt* of Couch—all of which are the same fish under different names.

This species is occasionally caught by trawl off Aberdeen, but it is far more plentiful in deep water off Wick, from which locality sometimes a hundredweight of them is brought to Aberdeen Market.

As in many other cases, the number of cæcal appendages found in this fish has been taken to demonstrate a distinction of species. Nilsson found fourteen to twenty such in *A. hebridica*, and twelve has been recorded for *A. sphyræna*, and Dr. Day says he "only found five in the example figured."

I, however, on April 3rd, 1895, found in one that was 16 inches long, twenty-five cæcal appendages. The roe in this example was four inches long and well nigh maturity. This organ was of a peculiar form, being made up of a number of semicircular plates that are fastened by one edge to a ligamentous membrane, each disk being quite free from its neighbours. Subsequently I examined two, both 13½ inches long; the one, a male, had eleven cæcal appendages, and the other, a female, twenty-three of the same organs. Another female, 14 inches long, had twenty-three cæca, and one 10 inches long had only four. It is therefore apparent that the number of cæca is in this, as in other members of the fish tribe, of no value in the determination of species.

Family ESOCIDÆ.

Genus ESOX, *Cuvier.*

Esox lucius, *Linn.* Pike. "Gade."

Common in the Dee, Don, Ury, Ythan, but is not known to exist in the Deveron. Plentiful in the Lochs of Kinord, Davan, Callater, Park, Skene, Slains, Strathbeg, and Bishop's Loch. Has been introduced into many of the lochs and streams in the counties of Banff, Moray, Nairn, Inverness, Ross, and Sutherland.

It is held that the Pike is not a native of Britain, but when introduced and by whom is not known. In Pennant's *British Zoology*, vol. iii., p. 424, is the following: "According to the common saying, these fish were introduced into

England in the reign of Henry VIII., in 1537. . . . . How far this may be depended upon I cannot say, for this fish is mentioned in the Boke of St. Albons, printed in the year 1496 . . . . great numbers of Pike were dressed in the year 1466, at the great feast given by George Nevil, Archbishop of York." This was in the reign of Edward IV. "Pikes are mentioned in an act in the sixth year of the reign of Richard II."

No record exists, so far as I know, of the introduction of the Pike into Scotland, yet, seeing that the fish was held in such high estimation, it seems reasonable to suppose that it had been brought hither by some of the clergy during the time the great religious houses held almost absolute sway, fish-ponds being usually an adjunct to monasteries, priories, and the religious institutions, where, whatever else, gastronomy was never neglected.

Much has been said and written regarding the longevity of the fish and vitality of its ova. In Cox's *Gentleman's Recreation*, published in 1697, under the "Noble and Delightful Art of Angling," p. 44, it is said: "The Pike is a very long-lived creature, and, if we may credit Sir Francis Bacon, or Gesner, that famous Brutologist, he outlives all other fish, which is a pity, he being as absolute a tyrant of the fresh waters as the salmon is the king thereof."

Regarding the ova, in the report of the British Association for 1845, Bishop Stanley "relates several facts which went to show that the grains of the roe of Pikes were deposited in the thatch of a cottage, where they remained for some years, and then when the thatch had been thrown into a dry ditch that afterwards was filled with rain, young Pikes were seen to be produced"!!

Formerly many virtues were attributed to the Pike in the healing art. In *Salmon's New London Dispensatory*, published 1676, p. 241, "they are said to live about two hundred years."

Notwithstanding the encomiums that have been bestowed upon the Pike as an article of food, it is, in my opinion, about the vilest of all the fish in our waters.

In 1839, eleven Pike were put into the Moriston river, and, in 1843, four or five Pike were put into Loch Tongue (head of the Moriston river) by Daniel Lank and Donald Gillies.

Family SCOMBRESOCIDÆ.

Genus BELONE, *Cuvier.*

Belone vulgaris, *Flem.* **"Gar-fish." "Greenbone." "Greenben." "Faap Mackerel." "Faap Whaup."**

Fairly common all along the east coast.

Genus SCOMBRESOX, *Lacepede.*

Scombresox saurus, *Flem.* **Saury-pike.**

"Great numbers of these fish were thrown ashore on the sands of Leith, near Edinburgh, after a great storm in November, 1768. The Saury-pike enters the Firth of Forth almost every autumn in considerable shoals, and, being stupid inactive fishes, are found by hundreds on the shallows when the tide retires, with their long noses embedded in the mud." (*British Zoology*, vol. iii., p. 431, 1812.)

"According to Dr. Neill it is not an uncommon fish in the Firth of Forth, where it is found as high up as Kincardine, but of late years, not a single specimen has been observed in the Firth." (Parnell.)

Rare on Kincardine, Aberdeen, and Banffshire coasts, an occasional one being cast upon the beach at Aberdeen.

Family CYPRINIDÆ.

Genus CYPRINUS, *Artedi.*

Cyprinus carpio, *Linn.* **Carp.**

"These are found in great abundance in the ponds of Pitfour." (Arbuthnot.) Of course they were introduced.

Genus GOBIO, *Cuvier.*

Gobio fluviatilis, *Flem.* **Gudgeon.**

In October, 1892, eleven of these fishes escaped from confinement where they were kept by James Allan, Esq. of Templand, Auchterless, from whose mill-dam they got into the Ythan, which is close by. Perhaps at some future time

some of these or their descendants may be got in the Ythan. It seems therefore right to note the above occurrence.

Genus LEUCISCUS, *Cuv. and Val.*

Leuciscus phoxinus, *Flem.* Minnow. Minnin.

In *Charlesworth's Magazine* for 1837, vol. i., p. 337, a writer giving the initials *W.L.* says: "There are no Minnows north of Perth, but plenty of Sticklebacks." Further he says: "I believe Minnows were introduced into the Don as I know they were into the Ness a few years ago."

"These are found in great numbers in the rivulets of the neighbourhood." (Arbuthnot.)

"In the north of Scotland the Minnow does not seem to exist, as not a single specimen was observed by a party of ichthyologists who lately visited the different lakes and rivers in the county of Sutherland. It is, however, found in some of the tributaries of the Dee, appearing more plentiful as we advance south." (Parnell, 1839.)

"This pretty active little fish is to be found in most of our streams. It is curious to see it stated in works on Ichthyology that this species is not to be met with north of the Dee, Aberdeenshire." (Edward.)

"In twenty years we have never once met with the Minnow anywhere in Sutherlandshire," and "we are not aware ourselves of the occurrence of this species in any river north of the Deveron, in Banffshire, except the Spey, where it was introduced to a limited extent about the year 1883." (Harvie-Brown and Buckley.)

Day, in speaking of this species, says: "Throughout most of the north of Scotland." (*British Fishes*, vol. ii., p. 186.)

It will thus be seen that great diversity of opinion has been expressed by various authors regarding the distribution of this abundant and beautiful fish. This being so, I have gone to considerable trouble to find out the real state of matters. Besides making personal visits to some of the rivers north of Elgin, I have been in communication with various correspondents in Inverness-shire, Ross-shire, Sutherlandshire, and Orkney, and one and all say that there are no Minnows in the streams there. One correspondent from Forres sent

what he believed to be Minnows, but the specimens were common Sticklebacks; another from Inverness sent what is usually called Minnows in that quarter, but these were Parr.

With reference to Minnows having been introduced into the Spey about the year 1883, I do not doubt that such took place, but I am aware that Minnows existed in the Spey long prior to that date, and that they were common there I am assured by gentlemen who are natives of the quarter and who used to use these fishes as bait long prior to the above date. That they are abundant in the Spey is testified by the fact that the fish have been sent from that stream to me, where they were taken from among "scores" of others. That these fish exist in the Lossie, near Elgin, is proved by the fact that, in 1889, the late Rev. Dr. Gordon sent some of them that were caught in that stream to me for identification. This is the most northern stream to which I have as yet been able to trace the Minnow. In Banff, Aberdeen, and Kincardine shires, it is common in all suitable waters.

This species is subject to the existence of tape-worm, those caught in the Don being especially so. This was first pointed out to me by Andrew Murray, Esq., advocate, who is a keen and most successful angler, and knows the fishes of our rivers well. Those tape-worms increase to such an extent that the Minnows so affected appear about twice their natural size, and as if at the point of bursting. When opened, the abdominal cavity is found to be crammed full of tape. How the poor fishes exist under such circumstances is a marvel.

Genus TINCA, *Cuvier.*

Tinca vulgaris, *Cuvier.* Tench.

"These are found in the ponds of Pitfour, where they seem to thrive and breed." (Arbuthnot.) ["One specimen taken in our Bay in 1864 is the only example I have seen. It is now in our Museum." (Edward.)]

In Day's *British Fishes,* vol. ii., p. 191, is the following: "A beautiful specimen was captured in the Moray Firth in the middle of June, 1863. From whence it came and how it fared is a mystery." Can this be the same fish as the 1864 one?

The Tench was introduced at Pitfour. In the Perth Natural History Museum there are specimens of Tench from the Tay.

Genus NEMACHEILUS, *Van Hass.*

Nemacheilus barbatula, *Günther.* **Loach.**

"In many streams in the north of Scotland, and in all the rivers entering the Firth of Forth." (Parnell.) He, however, mentions no particular stream "in the north of Scotland" in which the Loach is to be found. Included as "local" in Dr. Howden's list, without particulars being given.

I have never seen a specimen nor heard of one having been obtained, and all other writers are silent on the point.

Family CLUPEIDÆ, *Cuvier.*

Genus ENGRAULIS, *Cuv.*

Engraulis encrasicholus, *Cuv.* **Anchovy.**

Professor J. C. Ewart, in an article in the *Scotsman* of January 20th, 1890, says: "Anchovies were abundant in the Moray Firth, especially off Troup Head, where considerable numbers were caught in the ordinary herring nets by the Buckie fishermen. So abundant were the small fish that the fishermen believe immense numbers might have been taken had they been provided with small-meshed nets. . . . . The question at once suggests itself, do we owe this visit of the Anchovies to the extreme mildness of the season, or perhaps one ought rather to say to the prevalence of westerly and south-westerly winds? The Anchovies that have reached the Moray Firth have probably come from the Atlantic, borne along with the powerful currents which, during south-westerly winds, strike the Orkney and Shetland islands and with great force rush into the North Sea through the Pentland Firth. . . . ." The above irruption took place in 1889.

Dr. Day records the fact of Peach having taken Anchovies from the herring nets off Wick. [Olsen gives the Moray Firth as a spawning locality of the Anchovy.] In Howden's list it is marked "local."

J. Embleton Smith, in his article on the occurrence of Peach's death in the *Newcastle Chronicle*, 1886, states that Peach found the Anchovy at Peterhead.

Clupea harengus, *Linn.* Herring.

This is perhaps the most important, as it is one of the most abundant, fish in the British seas, supplying as it does an immense amount of food to man, besides which it is the prey and almost the regular food of many other fishes. There is no period of its existence in which the Herring is not devoured by some of its many enemies. Immediately on the spawn being deposited it is eaten in immense quantities by flat fish and haddocks, and such of the young as escape their enemies and attain a length of one to one and a half inches, full-grown herrings themselves feed upon eagerly. While in the same stage, it is often eaten under the name of Whitebait. In its adult stages, the Herring is being continually preyed upon by dog-fish, cod-fish, shark and fishing frogs, the gannet, and other fish-eating birds, while man, in addition to his wants as a food, uses Herring as a bait for the capture of other fishes.

The Herring is of a wandering disposition, but is with us at all seasons, spawning in the latter end of August and through September, and again in February. Those caught in winter are often large, dry, and devoid of flavour. Hermaphrodism sometimes occurs in this species. I possess such a one in which both milt and roe are unmistakably seen to be present.

Clupea pilchardus, *Walb.* Pilchard.

["These are found in our Bay during the whole year, but they are by no means a plentiful fish."] (Arbuthnot.)

If Pilchards were found all the year round in Peterhead Bay prior to 1815, they are not so now, for during a period of forty years I have only seen one specimen that was taken in the Moray Firth along with herrings, November 9th, 1881, and no mention is made of it by any observer with whom I am acquainted.

"Mr. Reid says, very rare; I have only seen two or three specimens." (Harvie-Brown and Buckley.)

"The Pilchard is become of late a rare fish in the Firth of Forth, as well as along the whole eastern line of the Scottish shores, yet about thirty years ago it was found in equal abundance in certain localities as the common herring." (Parnell.) This was prior to 1839.

Notwithstanding all this negative evidence, in Olsen's *Piscatorial Atlas* (1883), it is made to appear that the Firths of Tay and Moray are spawning ground for the Pilchard—an evident mistake.

Clupea sprattus, *Linn.* Sprat. Garvie. Garvock.

Abundant. Taken in quantities in the Firths of Forth, Tay, and Moray. Like its near relative the herring, it is the prey of many other fishes and of marine birds. Many a stiff battle has been fought over the question, "Is the Sprat a distinct species?" and although the question is settled in the affirmative by those best able to give an opinion, there are few fishermen that will admit the fact, or even allow that there are any so well qualified to settle the matter as themselves.

This is the species, along with young herrings, which is cured, tinned, and sold as sardines.

Clupea finta, *Cuvier.* Twit-shad. Rock-herring.

"We observe this fish enter the Firth of Forth in tolerable abundance towards the end of July, and dozens are then taken in the salmon nets." (Parnell.) Although this cannot be said to be an abundant species along the coasts of Kincardine, Aberdeen, Banff, and Moray shires, it is frequently taken during summer both by line and trawl.

Cupea alosa, *Linn.* Allis-shad.

Although this form has been looked upon as a distinct species from the preceding, there seems little difference between the two, and that only in the number or absence of the dark marks along the sides. I merely record the name, hoping that opportunity may be presented whereby proof may be given, either yea or nay.

Family MURÆNIDÆ, *Muller.*

Genus ANGUILLA.

Anguilla vulgaris, *Turton.* **"Sharp-nosed-eel." "Broad-nosed-eel."**

An abundant species in all our streams and lochs, attaining in size from two to two and a half feet. The young ascend the rivers in vast numbers in the months of May and June, always keeping close to the banks in an unbroken stream for several days, at which time they are about three to three and a half inches long.

On July 6th, 1895, I saw a large number in the river Muick, from six to ten inches long. All were making up stream. In their march they are often accompanied by minnows, who usually keep at the outside of the advancing host, and generally at the side next the stream. A good description of this "procession" is given by the Rev. Mr. George Mark, late minister of Peterculter, Aberdeenshire, in the *O. S. A.*, vol. xvi., p. 388.

In the eastern parts of Scotland, Eels are not now used as food; indeed, the people would as soon think of eating snakes. Such does not seem however to have always been the case, for we are told by the writer above quoted that "tenants who live on the banks of a burn sometimes build a fish-garth or dam with an opening to receive a kind of osier basket, or what they call a hose-net for catching fish. They catch some trout and some pike, but Eels in great abundance at the season of their returning to the sea, and sometimes cure them in large earthen jars or small casks for winter provision." It is now understood that the Eel spawns in the sea, and it is asserted that, having once performed that operation, it dies.

Genus CONGER, *Cuvier.*

Conger vulgaris, *Cuv.* **Conger. "Haivel." "Haivel Eel." "Evil Eel."**

Common all along the coast. Edward says: "This large species is often met with, but is not used as food." A different

idea now prevails in regard to this fish. It is found to be an excellent article of diet, and always finds a ready sale. The form formerly known as *Leptocephalus morrisii* is now known to be the young of the Conger. In this condition it is often cast upon the sandy beach at Aberdeen, where I have picked up over a dozen within the space of a mile, and few seasons pass without some specimens being so cast ashore.

Order LOPHOBRANCHII, *Cuvier.*

Family SYNGNATHIDÆ.

Genus SYNAGTHUS, *Artedi.*

Syngnathus typhle, *Linn.* Deep-nosed Pipe-fish.

"Rather rare in the Firth of Forth." (Parnell.)

"Met with at Banff." (Edward.)

A specimen which belonged to the late Dr. MacGillivray is in my possession, said to have been got at Aberdeen, but I have never seen one in a fresh state.

Syngathus acus, *Linn.* Great Pipe-fish.

Fairly common along the east coast, from the Firth of Forth to Wick. It is often cast up after storms, and caught by sand-eel fishers.

Sygnathus æquoreus, *Linn.* Æquoreal Pipe-fish.

"Not uncommon on the west sands after storms." (M'Intosh.) Along the coasts of Kincardine and Aberdeen shires this cannot be called an uncommon species. It is cast up after storms, and caught in rock-pools.

Sygnathus ophidion, *Linn.* Snake Pipe-fish.

"The only examples of this fish I have seen were taken in the Firth of Forth at North Berwick." (Parnell.) Harris records it from Banffshire, and Peach from Wick. This does not appear to be an abundant species along the east coast. I have three specimens in my possession.

Sygnathus lumbriciformis, *Yarrell.* Worm Pipe-fish.

"Often caught by the hand-net amongst the sea-weeds bordering the pools and rocks as the tide enters." (M'Intosh.) ["Is met with, and I should suppose is not so rare as one might expect." (Edward.)] "Observed by Mr. Peach at Wick." *(Fauna of Sutherland.)*

Genus HIPPOCAMPUS, *Leach.*

Hippocampus antiquorum, *Leach.*

"Two were found cast on shore at a place called the Sands of Boyndie, near the town of Banff, about twenty-seven years ago, after a very severe sea storm." (Edward.) Marked "local" by Howden. I have not seen this fish on the east coast.

Order PLECTOGNATHI.

Family GYMNODONTES.

Genus TETRODON, *Linn.*

Tetrodon lagocephalus, *Linn.* Globe-fish.

In Day's *History of British Fishes*, vol. ii., p. 271, is the following: "A stuffed one, 14 inches in length, was in the Aberdeen University Museum in May, 1881." If there was a stuffed specimen of that length there at that date it has now disappeared; yet amongst the local fishes in the Aberdeen University Museum there is a Globe-fish, 15½ inches long, and named *Tetrodon stellatus*, but without date or locality indicated, and to all appearance it is not a local specimen.

This species is marked "local" by Howden.

Genus ORTHAGORISCUS, *Bl. Schn.*

Orthagoriscus mola, *Bl. Schn.* "Sun-fish." "Short Sun-fish."

Occasionally met with all along the east coast of Scotland. They are usually found floating near the surface, generally

dead or in a dying condition. This species is often preyed upon by *Lernea pennatula.* On July 20th, 1896, from one I took six specimens of this parasite, which measured from five to six and a half inches long. They had to be cut from the flesh of the fish into which they had eaten their way for several inches.

Orthagoriscus truncatus, *Flem.* Oblong Sun-fish.

"Several have been brought on shore by the fishermen of Gardenstown, Crovie, and other places." (Edward.) "One obtained at Burghead." (Gordon.) "In August, 1846, and October, 1850, examples were taken in the Moray Firth and at Elgin." (Day.)

Order GANIODEI.

Family ACIPENSERIDÆ.

Genus ACIPENSER, *Artedi.*

Acipenser sturio, *Linn.* Sturgeon.

This species has been long known along the east coast of Scotland, although it has never appeared in large numbers. Parnell mentions it as being found in the Forth, St. Andrews (M'Intosh), Montrose (Howden), Banff (Edward), Elgin (Gordon), Inverness (Fraser), Sutherlandshire (Harvie-Brown and Buckley), Caithness (Peach and Reid).

Along the Aberdeen and Kincardineshire coasts the Sturgeon is caught occasionally by line fishermen. Sometimes it is found in stake-nets set for salmon, but most frequently it is caught by trawl-fishers who bring it into Aberdeen Market, where I have often had the opportunity of examining them. Specimens of six to seven feet are not infrequent.

The form that for long went under the name of *Acipenser latirostris*, and believed by Parnell and others to be a distinct species, is now considered to be merely a variety of *A. Sturio.*

Order ELASMOBRANCHII.

Family CHIMÆRIDÆ.

Genus CHIMÆRA, *Linn.*

Chimæra monstrosa, *Linn.* **"Arctic Chimæra." "King of the Herrings." "Rabbit-fish."**

"A specimen of this deep-sea and rather rare species was brought into our harbour in 1859." (Edward.)

Four females were brought into Aberdeen Market in 1891, two of which are in my possession. These were caught by trawl 160 miles N.E. of Aberdeen, in sixty fathoms water; since which time, however, considerable numbers have been landed by trawlers.

Sub-Order *PLAGIOSTOMATA.*

Family CARCHARIIDÆ.

Genus CARCHARIAS, *Mull. and Henle.*

Carcharias glaucus, *Cuv.* **Blue Shark.**

At St. Andrews, "not uncommon in the Bay. Captured by the fishermen in the salmon nets." (M'Intosh.) "In Montrose Museum." (Howden.) He, however, neither gives locality nor date. "One killed at Helmsdale, November, 1834." (Gordon, *Trans. Wern. Soc.*)

"Rare, cast ashore near Kintradwell after a storm. A specimen in Dunrobin Museum is dated Kintradwell, November, 1871." (Harvie-Brown and Buckley.)

A female specimen of this Shark, five feet four inches long, was brought into Aberdeen Market, September 24th, 1895. It was caught by line 180 miles S.E. of Aberdeen, which would indicate close proximity to the Dogger Bank. The specimen was bought by me from its captors. Its stomach contained fragments of fish. Having cooked a portion of it, the record must be made that, as an article of food, the Blue Shark is very good indeed. Since the above date several, said to have been caught within our limits, have been landed at Aberdeen Market.

Genus GALEUS, *Cuvier.*

Galeus vulgaris, *Flem.* The Tope. "Sheer-dog." "Penny-dog."

"Frequently taken in the Firth of Forth." (Parnell.) "Frequent at St. Andrews." (M'Intosh.) "I am only aware of two instances in which this fish has been found within our limits." (Edward.)

It is strange that a fish of such abundance along the east coast should have been so little noticed. That it is our most common Shark there is no room for doubt, it being taken during autumn by great-line fishers in large numbers. It is no uncommon thing to see from one to two tons of them brought into Aberdeen Market in one day, whilst several hundredweights are of daily occurrence. The fish, when skinned and allowed to lie in salt for a few hours and then boiled, is good eating, but inferior to young Porbeagle.

Genus ZYGÆNA, *Cuvier.*

Zygæna malleus, *Shaw.* Hammer-headed Shark.

"One found dead on the shore near Whitehills in 1861." (Edward.)

Included in Howden's list as a fish of his district, but neither date nor locality given, nor where to be seen.

Genus MUSTELUS, *Cuvier.*

Mustelus vulgaris, *Mull. and Henle.* Smooth Hound.

Under the name *Squalus mustelus*, Neill says, "this is occasionally found along with piked dog-fish"—(Memo. of the *Wern. Nat. Hist. Soc.*, vol. i., p. 549.) "The most common size of this species of Shark that I have met with in the Firth of Forth is from 20 to 25 inches in length." (Parnell.) "Noticed by Peach at Wick, Orkney, and Shetland." "St. Andrews, not uncommon." (M'Intosh.) "Specimen in Montrose Museum" (no date or locality). (Howden.) "Caught by us on long lines off Stiorhead." (Harvie-Brown and Buckley.)

One was caught by trawl twenty miles off Kinnaird Head, March 13th, 1899. It is a female, 24 inches long, and I am indebted for it to Mr. Howell.

Family LAMNIDÆ.

Genus LAMNA, *Cuvier.*

Lamna cornubica, *Cuv.* **Porbeagle. "Portugal Shark." "Sheer-dog."**

"We occasionally meet with a few of these upon our coast." (Arbuthnot.) "Several specimens have been taken in the Firth of Forth, principally in the herring nets." (Parnell.) "One caught at Lossiemouth in a salmon net, August 25th, 1845." (Gordon.) "It is now well known that the Porbeagle finds its way here occasionally, and usually about the herring season." (Edward.) "A specimen in the Dunrobin Museum, caught in Loch Inver, 1875. Another caught in the same loch, 1881. Pretty often at Wick." (Harvie-Brown and Buckley.)

I have often seen this species brought on shore in mid-winter, and upon the 18th of January, 1887, I opened a female in which there were four fully-formed young. From this I am disposed to think that the Porbeagle is a regular and constant inhabitant of British waters, and also that it cannot be called rare. This species is more frequently caught by trawl than by any other mode of fishing. As an article of food, the young is excellent.

Genus ALOPIAS, *Rafinesque.*

Alopias vulpes, *Bonap.* **"Thrasher." "Thrasher Shark." "Fox Shark."**

"A specimen was taken off Fortrose, Moray Firth, 1846." (Martin.) "So far as I have been able to learn, this Shark appears to be very rarely met with here." (Edward.)

A specimen was caught at Dunninald in 1880, and is now in Montrose Museum. One was taken at Fraserburgh, August 30th, 1884, extreme length 14 feet 8 inches, the tail measuring half the length. It was offered for sale in

Aberdeen, but as no buyer came forward, it was sent south, but what was its ultimate fate I do not know. Another was caught off Fraserburgh, November, 1884, and on September 10th, 1895, a male, 15 feet long, was caught in a herring net twenty miles off Aberdeen and brought to the port.

Genus SELACHE, *Cuvier.*

Selache maxima, *Cuvier.* **Basking Shark.**

"We have occasionally seen specimens of these fishes upon our coasts." (Arbuthnot.)

"Dr. Neill states in the *Wern. Trans.*, vol. i., that it is common in the Scottish seas, occasionally, though seldom, entering the Firth of Forth." (Parnell.)

One, now in Montrose Museum, is said to have been found near the Bell Rock; another, now in the University College Museum, Dundee, was caught off that port in 1890.

One was reported in the *Aberdeen Evening Express* as having been cast ashore at Portgordon, 13th October, 1899. I went to see it, and found that it was a male, measuring 27 feet 9 inches in length; the tail measured from point to point 6 feet, and the claspers 3 feet 6 inches. From the condition of the fish, it was evidently the same specimen as was reported to have been cast up at Garmouth a few days before.

Family NOTIDANIDÆ.

Genus NOTIDANUS, *Cuvier.*

Notidanus griseus, *Cuv.* **Brown or Mediterranean Shark. Six-gilled Shark.**

"A large specimen of this Shark was taken in the Firth here, and brought on shore at Whitehills in December, 1857. . . . It was bought for Banff Museum." (Edward.)

Entered as "local" in Howden's list, with no indication of locality. Many specimens of this species have been brought into Aberdeen Market of recent years, but none of them was caught within our area.

Family SCYLLIIDÆ.

Genus SCYLLIUM, *Cuvier.*

Scyllium canicula, *Linn.* **Small-spotted Dog-fish. "Blin' E'e." "Sweetwilliam."**

Frequently caught by trawl, and often by that means brought to Aberdeen Market.

Scyllium catulus, *Cuv.* **Large-spotted Dog-fish.**

"In the Firth of Forth examples are occasionally found in the salmon nets at Queensferry" (Parnell); who also states that it has been caught at Wick.

Included in Howden's list, but no locality given. Not mentioned by Gordon or Edward.

In a former list of mine this species was included on the authority of the late Dr. Dyce, but as the fish is not in the collection of that gentleman, now in the University Museum, Aberdeen, there is some doubt as to whether it had been taken at Aberdeen. I have never seen a specimen caught there. There is a specimen in the Industrial Museum, Edinburgh, which was caught in the Firth of Forth.

Genus PRISTIURUS, *Bonaparte.*

Pristiurus melanostomus, *Bonap.* **Black-mouthed Dog-fish.**

"I am led to believe that this species does occasionally occur with us." (Edward.) Marked "local" by Howden.

One was caught by trawl four miles off Aberdeen, November 15th, 1898, and is now in my possession. Since the above date two others have come to my hand.

Family SPENACIDÆ.

Genus ACANTHIAS, *Risso.*

Acanthias vulgaris, *Risso.* **Picked Dog-fish.**

Abundant all along the east coast, and very destructive both to nets and lines. Were this species used as it ought

to be, there would be less to grumble about regarding its destructive propensity, for few of our fishes afford a better meal when properly cooked—either boiled when fresh and served with a sauce made of milk with a little corn-flour, a little mustard, and plenty of parsley or onions cut fine; or if smoked in the same way as haddock, and then boiled for ten or fifteen minutes, and afterwards fried, it will compare favourably with the best of those usually called "food fishes."

Genus LÆMARGUS, *Muller and Henle.*

Læmargus borealis, *Bonap.* **Greenland Shark.**

Of the Sharks that attain to large size, this is the most abundant along the east coast. From 1883 to March, 1893, one hundred and twenty were brought into Aberdeen. Of the above number eighty-nine were females, and these attain a length of 15½ feet, while the longest male yet observed at Aberdeen was only 11 feet 3 inches.

Nothing seems to come amiss in the way of food to this animal. On one occasion I took from the stomach of one three salmon which were each 2½ feet long, three whitings, lot of *Buccanum undatum*, *Fusus antiqus*, and *Pagurus bernhardus;* from another, twenty-six lumps of whale blubber, each the size of a man's head; while cod, haddock, coal-fish, all the flat-fish that occur along the coast, dog-fish and porpoise have been found in the stomachs, besides which, on several occasions, lines with many hooks attached have also been got. Some of these seem to have been swallowed by the fish along other shores than those of Britain, because attached to the lines, as floats, were many pieces of wood of peculiar form, a method not pursued by fishermen on Scottish shores in regard to floating their lines.

Genus ECHINORHINUS, *Blainville.*

Echinorhinus spinosus, *Blainville.* **Spinous Shark.**

Not common. Edward records having seen one near Gamrie Head on 31st December, 1850. Another is reported by Smith in the *Zoologist*, p. 3057, as having been cast ashore

at Gamrie in 1851. This may have reference to the one spoken of by Edward. One was caught off the Ythan, July, 1875, and is now in Aberdeen University Museum. Two specimens, both caught by trawl, were brought to Aberdeen Market, where I obtained them: one on August 31st, 1883, off Slains; the other, 5½ feet long, twenty-four miles off Buchanness, August, 1899.

Family RHINIDÆ.

Genus RHINA, *Klein.*

Rhina squatina, *Raf.* **"Angel-fish." "Cattie." "Sea-devil."**

"Sometimes found on our coasts, but they are a rare fish." (Arbuthnot.) "Noticed by Dr. Neill as occurring occasionally in the Firth of Forth, and I myself have met with two examples taken with the hook in the month of June from the same quarter." (Parnell.) "A large specimen was cast into our harbour during the winter of 1851." (Edward.)

Several specimens have been brought into Aberdeen by trawl-fishers, but this species seems rare along the Scottish east coast. As an article of food it is extremely poor.

Family TORPEDINIDÆ.

Genus TORPEDO, *Dumeril.*

Torpedo nobiliana, *Bonap.* **"Cramp-fish." "Namb-fish." "Electric Ray."**

"A specimen of this fish is said to have been taken about six miles off Loggie-head, near Cullen, in 1817. Others are stated to have been caught." (Edward.) The above *said to have been taken* of Edward is, by Day, *British Fishes*, vol. ii., p. 332, turned into *was taken.* This species is marked in Howden's list as "local."

One was caught in herring nets in Wick Bay in 1884, and sent to the Fishery Board, Edinburgh. One was caught by trawl sixteen miles off Wick, December 27th, 1894, and brought

into Aberdeen Market; length, 3 feet 9 inches; breadth, 2 feet 8 inches. Another, caught in the Moray Firth in April, 1900, was given to Dr. Fulton of the Scientific Investigation Department of the Scottish Fishery Board, Bay of Nigg.

Family RAIIDÆ.

Genus RAIA, *Artedi.*

Raia batis, *Linn.* "Blue Skate." "Grey Skate." "Blunt-nosed Dinnan."

The most abundant of all the Rays, and taken in large numbers. This Ray is the largest species obtained along the east coast of Scotland. Females of from 5½ to 6 feet across are frequently brought into Aberdeen Market; the males measure from 5 to 5½ feet across.

Raia alba, *Lacep.* Sharp-nosed Skate. "Doctor." "White Skate."

This is the *Burton Skate* of Couch, vol. i., p. 97, but it is not, as Day says, the *Bordered Ray* of Couch; it is the *Sharp-nosed Ray* of Yarrell, 1st edition, vol. ii., p. 424; and the *Raia oxyrhynchus* of Parnell, as also of Edward, who says, "large individuals of this species are sometimes taken." It seems evident, however, that the last two writers mix up the Long-nosed and Sharp-nosed Skates. *Raja lintea* of Harvie-Brown and Buckley. The Sharp-nosed Skate never attains to large proportions; three feet over all is about the maximum length, whereas the Long-nosed Skate attains a length of six feet.

R. alba is an abundant species on the east coast, and is caught in great numbers. It is subject to a peculiar malformation in the form of a large fin in the centre of the back. This fin is sometimes accompanied by one or more appendages. I possess three such examples.

Day's statement that this species is the largest British form of Skate is, we think, an error.

Raia oxyrhynchus, *Linn.* "Long-nosed Skate." "Lang-nosed Dinnan."

This is the *Shagreen Ray* of Yarrell, 1st edition, vol. ii., p. 414; the *Raia intermedia* of Parnell; the *Sharp-nosed Skate* of Edward; the *Long-nosed Skate* of Couch, vol. i., p. 93; and the *Long-nosed Skate, Raja vomer,* of Harvie-Brown and Buckley.

This is not an abundant species along the east coast, until Caithness is reached.

Raia clavata, *Linn.* "Thorny." "Thornback."

Neill, in the *Wern. Memoirs,* vol. i., p. 554, mentions a form he obtained that had a "dorsal fin in the middle of the back." A similar one had been described by Lacepede, and named by him *R. cuvieri,* but it is now understood to be a monstrosity of *Clavata.*

Abundant along our whole coast line. This species is subject to great variation in colour. As an article of food, it is not held in great esteem.

Raia maculata, *Montagu.* Spotted Ray, *Couch.*

"One of the rarest of the species met with in the Firth of Forth." (Parnell.) Dr. Day, in vol. ii., p. 346 of his *History of British Fishes,* quotes Edward as saying that this species is "occasionally met with" at Banff. He also quotes from a list by the present writer to the same effect, but the *Maculata* referred to in both cases is the *Homelyn Ray,* as given by Yarrell in his 1st edition of the *History of British Fishes* (see vol. ii., p. 429), and not the species under consideration.

The Spotted Ray, although not abundant, cannot be called rare; frequently a dozen can be seen of a morning in Aberdeen Market. Although this is so, I searched in vain for several years before I succeeded in finding females of this species with eggs ready for expulsion. However, on the 11th of May, 1892, I found one female with eggs in the desired condition, *i.e.,* with the horny capsules (purses) fully formed and situated near the ventral opening, while in a second these purses were only half grown.

[**Raia microcellata**, *Montagu*. **Painted Ray.**

Marked as local by Howden, but, as usual, with no information as to where or when caught, or where to be seen.]

Raia circularis, *Couch*. "**Eel-pot.**" "**Cuckoo Ray.**"

This is one of our most abundant Rays, and is caught in large numbers both by line and trawl. It never attains a large size, two to two and one-half feet over all being the maximum of length, but it is generally under that size.

Raia radula, *Delar*. **Sandy Ray.**

This form is one over which much difference of opinion has existed, but after many years' study of this particular fish, during which time I have obtained it in all stages of its existence, I am fully satisfied that it is a genuine species.

No Scottish author, in so far as I am aware, seems to have observed this fish, except, perhaps, Edward, who speaks of *Raia spinosa*, the *Sandy Ray*, which he says "is well known to the fishermen, but they do not often take it."

In the *Naturalist*, vol. vii., p. 150 "W," *i.e.*, Walter Grigor, reports the Sandy Ray, *Raia spinosa*, as having been caught in the Moray Firth, January 12th, 1857. The description given shows, however, that the fish was *not the Sandy Ray* but *Raia circularis*.

To the form under consideration no fewer than fourteen different names have been given, many of the earlier writers holding it to be a distinct species, while latterly it has been bandied about from variety to species, and back again, until one can scarcely say how the matter at present stands.

Couch, Thomson, and Yarrell hold it to be a distinct species; while Drs. Günther and Day, in their respective works, consider *Raia radula* as merely the adult form of *Raia circularis*, the latter author assuming that his *R. circularis* and the Cuckoo and Sandy Rays of Couch are one and the same.

Before, however, going farther, it is necessary to point out that *R. circularis* of Day is the Homelyn Ray—Home, Sandy,

and Spotted Rays of Yarrell; while it is the Cuckoo Ray of Couch, with the scientific name of *miraletus*. Nor are the figures given of the species to be regarded as more satisfactory. No two of them are alike, nor are they in form like the fish they are intended to represent. Day's figure of *R. circularis* would pass for *R. radula*, but it is in no way like the true *circularis*. Couch's uncoloured figure of *circularis*, which he names the Cuckoo Ray, is good so far as form goes; but the spinulation is not correct. Besides, he describes the figure as being that of a male; if it is so, he has omitted to show the claspers. The coloured figure of his Cuckoo Ray is not the proper shape, as may be seen by comparing it with the uncoloured one at p. 114, vol. i.

Yarrell's figure of *circularis*, which he designates the Homelyn Ray, is, so far as form goes, the most correct of the lot; but he shows nothing of the spinulation on the "wings." His figure and description of *R. radula*, as given in his supplement to *British Fishes*, published in 1839, p. 19, is merely a reproduction of that given by Couch in the *Magazine of Nat. Hist.*, New Series, vol. xi., and is intended for a female, but is in outline more nearly that of a male, the anterior edges of the female being rounded instead of being hollowed out as his figure represents it.

Beneath the figure Mr. Yarrell has appended the following names:—

Raia radula, Delar, "Mém. Possi. Ivic." in "An. Must. Hist. Nat." t. xiii. p. 321.
" " *Raie râpe*, Risso, "Hist." t. iii. p. 151, sp. 38.
" " " *ratissoire*, Blainv., "Faun. Franc." p. 25.
" " *Razza scuffina*, C. L. Bonap, "Faun. Ital." pt. xiii.
" " The Sandy Ray, Couch, "Mag. Nat. Hist." vol. xi. p. 71.

Yarrell further remarks: "The close accordance of the figure and description of this fish by Mr. Couch to the figure and descriptions of *Raia radula* of the authors here quoted leaves little room to doubt but that they refer to the same species, and I include the fish, therefore, as here given, on Mr. Couch's authority."

As will be seen from the above, Day puts the Cuckoo Ray and Sandy Ray of Couch as the same species. This he was certainly not warranted in doing, for the following reasons. First, *R. radula* is an abyssal form, while *R. circularis*

is not. Second, *radula* attains a much larger size than *circularis*, and before *radula* is mature it is longer and broader than mature *circularis*. What I mean by mature is, that in *radula* the claspers of the male are not developed beyond two inches long when the fish itself has attained a size considerably beyond *circularis*, in which these organs are of full size, and the fish producing young. In confirmation of this I have taken many eggs from *circularis*, and have had them hatched out. Third, in *radula* the male is always much smaller than the female, while in *circularis* the sexes are of the same size. Fourth, the claspers in *radula* differ in form from those of *circularis*, the former having a sharp spine on the edge which the latter never has. Fifth, the teeth of both species, though similar in form, are not identical. Sixth, the form of the two fishes is very different, the anterior edges of *radula* being very much straighter than those of *circularis*, *i.e.*, the anterior edges of *circularis* are more hollowed out, and the head is more marked off from the body than in *radula*. Seventh, the colour and marking in the two species are different. In *radula* the ground-colour of the dorsal surface is of a light cinnamon brown, with regularly-placed whitish spots upon it; while *circularis* is usually of a yellowish colour, with only the central circular mark on each "wing." In addition to this, it has sometimes white markings similar to those on *radula*, and it is from this fact, perhaps, that some ichthyologists believe it to be merely the young of *radula*, and that the large circular spots disappear with age. This, however, seems to me untenable, for it is mature, and produces its kind while the large marks are still upon it. Again, these same white markings, similarly arranged, are to be seen as frequently upon *Raia radiata*, a form which no one would think of confounding with either of the species under consideration. Eighth, the proportion of females over males in *radula* is extraordinary. From 7th May, 1892, until 5th July, 1895, I kept a daily record of all the examples of *radula* that were brought into Aberdeen Market, and within that period 2865 females stood against only 123 males; whereas in the case of *circularis*, from 15th August, 1894, until 12th July, 1895, the numbers were 2237 females and 2381 males, showing an excess of 144 males over females.

Now, the question arises (and has to be answered by

those that hold the two forms to be the same): What becomes of the excess of males in what some writers are pleased to call its immature state? It may also be asked: Why is there such a paucity of males when the fish is in what they term its adult state? And further: At what stage of their existence does the change take place in the form, external colour, and markings of the two forms? Besides this, *circularis* is quite abundant, and breeds freely in Aberdeen Bay and along the coast both north and south, while *radula* is entirely absent from that ground, and is not to be found until we reach deep water to the north of Wick. Again, if *circularis* is the young of *radula*, how is it that not a single example of it is caught in company with *radula?* One would naturally expect that the immature stage would occasionally be found with the adult.

The nature and distribution of the spines of the two forms differ, *radula* having a few strong irregularly-placed spines upon the nose, and three rows of from seventeen to eighteen spines on each "wing," and the anterior end of these rows does not come nearer the edge of the fin than 1½ inches. On the other hand, *circularis* has no strong spines upon the nose, and those on the "wings" come right up to, and extend along, the anterior edge, the spines becoming less as they advance towards the front. There are sometimes four rows of these spines, and they form a triangular patch, the long end of which points posteriorly.

In reference to the spinulation of the Rays, Dr. Günther, in his *Introduction to the Study of Fishes*, says: "The males of all are armed with patches of claw-like spines, retractile in grooves of the integument, and serially arranged, occupying a space on the upper side of the pectoral fin near the angle of the disc, and frequently also the sides of the head." These spines are certainly not retractile in the British forms. They are firmly set by broad bases into the skin, and are immovable.

Taking all things into consideration, there seems to be no doubt but that *Raia radula* must stand as a distinct species. This opinion I have held from the first, but refrained from expressing it until such time as a series of each in all their stages could be obtained. This has, within the past two years, come to hand, and I have now an unbroken

series of each species, and I consider that I am warranted in saying that no further doubt need exist that the idea of *circularis* being the immature form of *radula* is erroneous.

As an article of food, *Raia radula* is excellent.

Raia radiata, *Donovan.* Starry Ray.

This, the smallest of our British Rays, was first described by Donovan, and until recent years has been considered rather rare. Parnell says: "It has been found by Dr. Johnston in Berwick Bay, and by myself several times in the Firth of Forth, but in no other localities has it yet been discovered. . . . . From two to three specimens can be obtained nearly every week in the Edinburgh Market during the months of April and May."

"The only three examples of it I have seen have been received, one from Berwick and two from the Firth of Forth." (Yarrell.) "This small species is picked up now and then." (Edward.) Couch never saw a fresh specimen, and had to copy Donovan's plate.

This small deep-sea form is abundant along the coasts of Kincardine, Aberdeen, and Banff; but, until trawling became common, was only taken by line during the months of May, June, and July. The trawl has revealed the fact that the *Starry Ray* is in great numbers, and is brought by that means to Aberdeen Market all the year round. That being so, I have been enabled to learn that this fish sheds its eggs at all seasons of the year.

Family TRYGONIDÆ.

Genus TRYGON, *Adamson.*

Trygon pastinaca, *Cuvier.* Sting Ray.

One "captured in the Firth of Forth, in the salmon nets above Queensferry, in the middle of August." (Parnell.) Mentioned by Howden as having been observed in his district, but neither locality nor date given.

On November 28th, 1887, a specimen was caught by trawl twenty-eight miles off Montrose, and brought into Aberdeen, and is now in my possession.

Family MYLIOBATIDÆ.

Genus MYLIOBATIS.

Myliobatis aquila, *Cuvier.* **Eagle Ray.**

A specimen of this rare species is in Banff Museum. It was caught off Banff some years ago. On November 11th, 1887, a specimen was caught by trawl twenty-eight miles off Aberdeen, and is now in my collection. On November 25th, 1899, one was caught by trawl in Aberdeen Bay, and brought to Aberdeen Market alive; on November 2nd, 1901, another was caught eight miles off Aberdeen; while a third was taken on January 16th, 1902, twenty-five miles off Buchanness; all of which were females, and came to my hands.

Sub-Class *CYCLOSTOMATA.*

Family PETROMYZONTIDÆ.

Genus PETROMYZON, *Artedi.*

Petromyzon marinus, *Linn.* **The Lamprey. "Lamper." "Lamper Eel."**

Fairly common all along the east coast of Scotland, and caught at all seasons of the year. Not used as food.

Petromyzon fluviatilis, *Linn.* **The Lampren. "Nine-e'ed Eel."**

Found in most of the rivers and streams along the coast.

Petromyzon branchialis, *Lacep.* **"The Pride." "Planer's Lamprey."**

Fairly common in many of the streams of Aberdeen and Banff shires, and indeed from Forth northwards.

Family MYXINIDÆ.

Genus MYXINE, *Linn.*

Myxine glutinosa, *Linn.* "**Glutinous Hag.**" "**Heelack.**" "**Eelat.**"

Common all along the coast. This fish is often found within the bodies of haddock, cod, and coal-fish. It is said that instances of its taking a baited hook "must be extremely rare." This is not so. I have taken it from the fishermen's lines (sometimes over a dozen from one line), with the hook and bait deep in the gullet quite out of sight. They therefore give the fishermen much trouble in removing them from the lines, because when thus caught the fish wriggle so that they run the lines into knots difficult to unravel.

Order LEPTOCARDII.

Family CIRROSTOMI.

Genus BRANCHIOSTOMA, *Costa.*

Branchiostoma lanceolatum, *Gray.* **The Lancelet.**

"Two specimens occurred in the stomach of a cod." (M'Intosh.) Day, in his *History of British Fishes*, vol. ii., p. 366, gives the Moray Firth as the habitat of this species, but quotes no authority for this statement. I am in possession of two specimens which were said to have been obtained twelve miles off Aberdeen, but the story wants confirmation.

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„	98,	„	europæ	„	europæa.
„	191,	„	Brunnick's	„	Brunnich's.
„	258,	„	Scombresox	„	Scomberesox.
„	265,	„	Syngathus	„	Syngnathus.
„	„	„	Sygnathus	„	Syngnathus.
„	„	„	Sygnathus	„	Syngnathus.

Strix noctua, *Scopoli.* **Little Owl.**

With reference to this specimen, p. 122, I have now reason for believing that it had escaped from confinement.

7 NOV. 1903